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THE EMERGENCY MEDICAL SERVICES AND TRAUMA CARE IMPROVEMENT ACT OF 1989

HEARING

BEFORE THE

COMMITTEE ON LABOR AND HUMAN RESOURCES UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

FIRST SESSION

ON

S. 15

TO AMEND THE PUBLIC HEALTH SERVICE ACT TO IMPROVE EMERGENCY MEDICAL SERVICES AND TRAUMA CARE, AND FOR OTHER PURPOSES

JULY 25, 1989
WASHINGTON, DC

Printed for the use of the Committee on Labor and Human Resources

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CONTENTS

STATEMENTS

TUESDAY, JULY 25, 1989

	Page
Cranston, Hon. Alan, a U.S. Senator from the State of California	1
Gore, Hon. Albert, a U.S. Senator from the State of Tennessee	4
Prepared statement	8
Hatch, Hon. Orrin G., a U.S. Senator from the State of Utah	12
Prepared statement	15
Kyler, Steven, a trauma survivor, Adamstown, MD	16
Wolferth, Dr. Charles C., chairman, Department of Surgery, Presbyterian Medical Center, Philadelphia, PA, and Chief of Region III, American College of Surgeons Committee	19
Prepared statement	21
Franaszek, Dr. Jacek B., president, American College of Emergency Physicians, Washington, DC, and a practicing emergency physician from Hinsdale, IL	34
Prepared statement	36
Champion, Dr. Howard R., chairman, Legislative Committee, American Trauma Society, Landover, MD, and Chief of the Level I Trauma Service, known as MedSTAR, at the Washington Hospital Center, Washington, DC	43
Prepared statement	46
Muller, Dr. Ralph W., president, University of Chicago Hospitals, Chicago, IL, on behalf of the American Hospital Association	62
Prepared statement	65
Richards, Dr. N. Mark, secretary of Health, Pennsylvania Department of Health, Harrisburg, PA, on behalf of the Association of the State and Territorial Health Officers	85
Prepared statement	87

ADDITIONAL MATERIAL

Prepared statement of:	
The Society of Critical Care Medicine	102
The American College of Rheumatology	105
The American Academy of Neurology	110
The American Association of Dental Schools	113
The American Academy of Pediatrics	117
The U.S. Public Health Service Department of Health and Human Services	137

THE EMERGENCY MEDICAL SERVICES AND TRAUMA CARE IMPROVEMENT ACT OF 1989

TUESDAY, JULY 25, 1989

U.S. SENATE,
COMMITTEE ON LABOR AND HUMAN RESOURCES,
Washington, DC.

The committee met, pursuant to notice, at 3:05 p.m., in room SD-430, Dirksen Senate Office Building, Hon. Paul Simon, presiding.

Present: Senators Simon and Hatch.

Senator SIMON [presiding]. The committee will come to order.

We are holding hearings on the whole question of emergency services and trauma centers. We have two bills on the subject, one sponsored by Senator Cranston, who is with us, and cosponsored by Senators Kennedy and Gore and 23 members of the Senate. I am pleased to be one of those.

Another is a bill sponsored by the ranking Republican on this committee, Senator Hatch. We have a broad range of witnesses. The trauma centers have unquestionably saved a great many lives—88 people on the United flight last week were treated at the new well-equipped trauma centers in Sioux City, IA.

Unfortunately, a great many places do not have the kind of system that they should have. In Illinois, we have had two trauma centers close because of financial difficulty and, unfortunately, these two trauma centers that closed were in an area of great need.

I am very pleased to have as our first witness the chief sponsor of the first piece of legislation and one of the leaders of the Senate, Senator Alan Cranston.

STATEMENT OF HON. ALAN CRANSTON, A U.S. SENATOR FROM THE STATE OF CALIFORNIA

Senator CRANSTON. Thank you very much, Paul. I appreciate very much your holding this hearing and your interest in this very important legislation.

I am glad to have this opportunity to testify this afternoon, to discuss what is really a life and death issue—emergency medical services and trauma care.

You stated that many lives have been saved by trauma centers. That is absolutely true, and quite possibly one of those is Ronald Reagan. When the assassination attempt occurred on him shortly after he became our President, he was rushed to a trauma center, given first-rate emergency help very, very swiftly. Had that center not existed, he might not have survived that assault upon him.

I have been involved in this issue for more than 17 years, beginning with the development in 1972 of legislation enacted as the Emergency Medical Services Systems Development Act of 1973. Much progress has been made since that time, but we still have a long way to go to insure that all Americans, whether they live in rural communities or the inner cities, have access to life-saving emergency medical services.

Today's hearing is an important step to highlight many of the critical issues involved. I especially want to express my appreciation to the chairman of the full committee, Senator Kennedy. He and I have worked on this issue since the early seventies. He's been a great champion of improving EMS services, and I much appreciate his assistance in moving forward new legislation on EMS and trauma care.

I also thank you for chairing the hearing this afternoon. Chicago is facing many of the same problems that confront Los Angeles in keeping its trauma system afloat. Like Chicago, Los Angeles has lost 10 of its 23 trauma centers, so I know we share many concerns on this issue.

I also want to congratulate the ranking minority member of the committee, Senator Hatch, for his efforts on this issue. Although we may not agree on all the specifics of legislation at this time, I am heartened that with the support from both sides of the aisle, we will be successful in arriving at a consensus and enacting a law that will truly help save lives.

Each year, more than 140,000 Americans die from injuries, and one person in three suffers a nonfatal injury. Injury is the fourth leading cause of death among all Americans. It is the major killer of children and young adults. In fact, nearly 80 percent of deaths in teenagers and young adults between the ages of 15 and 24 result from injuries. The costs associated with these injuries are staggering—more than $130 billion a year.

The real tragedy is that many of these deaths and disabilities could be prevented. We have the knowledge and resources to do it. But until we go on the attack against fatal injuries—by making improved trauma care and comprehensive emergency medical services a national health care priority—people will continue to die needlessly.

Numerous surveys have found that most communities don't have the systems in place to ensure that seriously injured patients are taken to facilities that are best able to care for them. With serious injuries, there is no time to lose. Initial decisions in assessing an individual's injury and deciding where to take him or her are critical to whether that person lives or dies, is paralyzed for life, or walks again.

The question is how do we best encourage the development of comprehensive quality trauma systems?

I believe that S. 15, the proposed "Emergency Medical Services and Trauma Care Improvement Act of 1989" would accomplish that goal. This legislation grew out of a GAO report that Senator Kennedy and I requested in 1985 and that was completed in late 1986.

The GAO found that, in general, EMS systems were making progress. They also found that trauma care systems, which are

proven life-saving potential, were not being developed. The reasons cited focused primarily on economic and political barriers. Numerous studies since that time have come to the same conclusions.

S. 15 would help States overcome those barriers by providing $75 million to States for two purposes: first, to set up well-coordinated trauma care systems so that severely injured persons will receive highly specialized trauma care as rapidly as possible following their injuries, and second, to enable trauma care centers to receive direct financial relief for uncompensated care costs associated with providing trauma care.

In order to receive funding, States would be required to develop a comprehensive plan which would include minimum standards and guidelines for the implementation of such systems, including requirements for designating trauma centers, pre-hospital triage to identify injury victims, and policies for hospital and ambulance transport and transfer. The plan would also provide for a data collection system and public education about injury prevention.

The State standards would be required to be at least as stringent as those developed by the American College of Surgeons and the American College of Emergency Physicians. These standards are widely recognized by trauma experts as reflecting the state-of-the-art for quality trauma care and have already served as the basis for trauma system development in several States, including my home State of California.

However, I also recognize that States may have unique circumstances where flexibility with regard to a particular standard or standards would be necessary. Thus, our legislation provides that States can receive a waiver from that standard or standards as long as the State can demonstrate that the quality of the trauma care services would not be diminished.

I want to make one last point with regard to the ACS and ACEP standards. States would need to adhere only to the standards that are in place at the time of enactment of this legislation. It is not my intention that States would have to continue to modify their plans as the standards are changed. When the program comes before Congress for reauthorization, we can then review any revised standards to determine whether the legislation should be modified.

The final issue I want to address is rural trauma care. Many traumatic injuries occur on isolated roads or on farms which are far from specialized trauma centers. I believe this legislation would be particularly helpful in those situations. It would help ensure that rural communities are linked to trauma centers through communications and transportation systems, so that serious trauma victims, once stabilized, would be transferred to hospitals that are specially equipped to handle such cases.

At the same time, I recognize that rural communities have special concerns and unique problems, particularly in the area of recruiting trained personnel and communications. Senator Simon, I understand that you raised that issue when the bill was reported from the Labor and Human Resources Committee last year.

To address these issues, last Thursday, along with Senator Kennedy, Senator Gore, who is now with me at this table, and seven other cosponsors, I submitted for printing an amendment to S. 15

that would set aside 15 percent of the funding to provide special assistance to rural communities in order to fill in gaps in their emergency medical services systems. It would help ensure that they would be able to participate fully in regional trauma care systems that would be established under S. 15.

Mr. Chairman, there is no question that appropriate and quality trauma care saves lives. There is also no question that it will cost money. The real question is this: Are we willing to invest the resources to bring the highest quality emergency medical services to every community in America so that we can reduce the senseless loss of life from injury? My answer is an equivocal "yes".

S. 15 would move us much closer to that goal. It is supported by 23 Senators from both sides of the aisle and by 33 organizations, including the American Medical Association, the AARP, the International Fire Chiefs, the National Coalition on Agricultural Safety and Health, and the National Association of State EMS Directors. I ask that a complete listing of groups supporting this bill be included in the Record.

That concludes my testimony. I look forward to continue to work with you, Senator Kennedy, Senator Hatch, and other members of the committee and people not on the committee, like Senator Gore, on this important issue.

Senator SIMON. Thank you.

I would like to call on Senator Gore. If you can stay here for Senator Gore's statement, I do have a couple of questions for you, Senator Cranston.

Senator Gore, we are very pleased to have you here as one of the chief cosponsors of this legislation.

STATEMENT OF HON. ALBERT GORE, A U.S. SENATOR FROM THE STATE OF TENNESSEE

Senator GORE. Thank you very much, Mr. Chairman, and thank you for inviting me to testify this afternoon.

I want to join my colleague Senator Cranston in complimenting and congratulating you for your leadership on this question, Senator Kennedy, the chairman of the full committee, who is a giant in this field, Senator Hatch, with whom I have some disagreements—I will echo the sentiments of my friend Alan Cranston—but I also wish to join him in acknowledging the outstanding leadership and many wonderful contributions to this issue made by Senator Hatch, and I look forwards to working with him to resolve this issue.

Let me begin my formal statement by also acknowledging the leadership that Senator Cranston has shown on this issue. He was the author of the 1973 Emergency Medical Services Systems Act. His law laid the foundation for the bill that we are considering today. We would not even be able to talk about the kinds of improvements that we are discussing here afternoon, except for the work of Senator Cranston. He has made an important difference in this critical area of health policy, and it is an honor to be able to appear with him at today's hearing and to have had the opportunity to work closely with him in developing the legislation that is the subject of today's hearing.

Mr. Chairman, I am here to express my strong support for a bill that is a matter of life or death for millions of Americans.

Trauma is the most important, most tragic and most expensive health problem in the United States today. Each year, about 70 million Americans are injured seriously enough to require medical attention in an emergency facility. Between 300,000 and 400,000 of these individuals are permanently disabled. Another 140,000 lose their lives. Injuries are the leading cause of death up to the age of 44, and cause more lost working years than all forms of cancer and all forms of heart disease combined, with an estimate yearly economic loss to our Nation of over $130 billion. Of course, millions of families every year come into contact with the trauma care system.

When I began working on this issue, I had no idea that my own family would be touched by this problem, and not long ago, not too many months ago my 6-year-old son was hit by an automobile and was immediately taken care of by nurses who happened to be near the scene of the accident. An ambulance arrived not long after that and, as luck would have it, we were in a jurisdiction that has an excellent system for trauma care.

The State of Maryland has worked out its trauma care plans and the city of Baltimore has designated a trauma care center. My son was taken immediately to Johns Hopkins Hospital, where a team of highly-trained specialists, nurses and technicians were there waiting to give him the very best care that medical science can provide, and we feel very fortunate that we happened to be right in a place where trauma care policy was handled well, and we saw firsthand what a difference it can make to have all of the services that go with excellent trauma care.

I hate to think what might have been the outcome if that had not been the case.

Let me say that my home State of Tennessee, unfortunately, is no stranger to the enormous social and economic cost of trauma. As a rural State, we rank among the top-ten States in deaths due to homicide, motor vehicle accidents, and injuries. Over the years, Tennesseans have died from trauma at a rate almost twice that of the national average.

Yet, if you sit down and talk with the trauma experts, as I have done in Tennessee—and we have some of the leading experts in the Nation on trauma care—they will tell you that the greatest tragedy is not that doctors are losing patients, it is that the system is losing patients.

We have the ability to save at least 25,000 of these lives and prevent tens of thousands of permanently disabling injuries each year through appropriate and prompt treatment, but too often the appropriate care is received too late for it to do any good.

So, the bill before the committee, the Emergency Medical Services and Trauma Care Improvement Act of 1989, will help provide all U.S. residents access to the appropriate care and, as a result, will save lives, suffering and money. This legislation will make it possible for any child, injured in a car accident or any individual needing trauma care, will have the kind of excellent care that my son was fortunate to receive because of the luck of the draw—we just happened to be in a jurisdiction where it existed. This will put it in place in every jurisdiction.

Of course, as this committee well knows, it is not a mysterious or complicated subject. A trauma care system is merely an organized approach to caring for the acutely injured patient. It's composed of four primary components: (1) access to care, (2) pre-hospital care, (3) hospital care, and (4) rehabilitation.

The 1966 and 1973 laws focused on the first two components, access to care and pre-hospital care. These laws accomplished almost all of what they set out to do. The emergency medical services (EMS) we are familiar with—the new ambulances, the emergency medical technicians and paramedics—are all a result of the 1966 and 1973 laws.

Now, while these were critical first steps, the next steps are equally critical, especially hospital care. It doesn't do much good to have a sophisticated system that insures prompt transfer to the hospital, only to have the patient die because the appropriate medical personnel and services are unavailable at that hospital.

In 1976, a task force of the American College of Surgeons published a landmark document titled "Optimal Hospital Resources for Care of the Seriously Injured," in which standards for trauma centers were first established. In 1979, Congress began work on a process to designate trauma centers, but before this program was properly implemented, disaster struck the trauma system.

In 1981, the Emergency Medical Services System Act was repealed, and the program was folded, along with six other health programs, into a Preventive Health Block grant. While this provided States with a great deal of flexibility in implementing programs, progress on designating trauma centers all but stopped. That has left us with an efficient system of pre-hospital care, but it has left us in a complete muddle about the appropriate locations to which patients should be transported. The tragic result is patients dying, not because of their injuries, but because the system is failing them completely.

S. 15 is specifically designed to get us back on track in designating trauma centers. It establishes tough standards, endorsed by the medical experts, that will help States resist potentially disastrous pressure coming from local hospitals to liberalize certifying standards. Some local hospitals may not like it. In some cases, they fear that not being designated will hurt their ability to compete for patients in other services. And while most hospitals are excellent, let us be realistic, few can make the entire commitment it takes to be a successful trauma center.

It is indeed a tragedy if changes in hospital reimbursement have prompted such fears, but that has made it all the more important to enact legislation addressing trauma center designation as soon as possible. S. 15 does just that. It assures every citizen of this country, whether he or she lives in a major city with six hospitals, or in a remote rural county with none, that should tragedy strike, that at the end of the ambulance ride or helicopter ride, appropriate, highly-skilled personnel will be waiting.

Some will argue that such standards should not be set at a national level. They claim that the country would somehow be better served by giving States "flexibility" in developing standards.

Well, Mr. Chairman, I cannot think of a worse direction in which for us to head. The quality of care you receive should not depend

on what State you happen to be injured in. The requirement that a neurosurgeon be present does not change from Tennessee to Illinois. Yet, that is what the proponents of "flexibility" are proposing.

I have read their statements. One of them lists the three most important characteristics of effective trauma care systems as "flexibility, stability, and assured access." Well, the experts I have spoken with have a different list. It includes "making capable personnel immediately available, maintaining sophisticated and often expensive equipment, and assuring priority of access to operating rooms and other hospital facilities"—characteristics focused on saving lives and preventing disability.

Mr. Chairman, I do not know if you have had a chance this week yet, because it is early in the week, to see the cover story in the new *Time* magazine that just came to the mail boxes today. It is a deeply troubling cover story on the growing anger and suspicion that the American people feel toward doctors. Public dissatisfaction in our health care system is based in large part on the perception by some that some in the medical profession too often seem to give more weight to financial self-interest than they should when the patient's best interest is at stake.

Well, during today's hearings, the committee will hear from the experts in trauma and emergency medicine, the doctors who spend their lives fighting to save patients' lives, pleading for our help in making the American College of Surgeons' guidelines the standard for the Nation. Yet, we will also hear from the representatives of hospitals, arguing for flexibility and 50 different State standards. Mr. Chairman, what would lead hospitals to argue against their own doctors, the doctors who care for the patients in the trauma system?

I believe the evidence will reveal that too many hospitals prefer a system where the staff of their marketing department has more to do with whether they are called a trauma center than the staff in their emergency medicine department. Now, which department ought to be making the guidelines as to whether the hospital is a trauma care center or not, the marketing department or the emergency medicine department? That is really the issue.

It is precisely that sort of thinking by hospitals that leads to stories like the one on the cover of this week's *Time* magazine. That was the painful lesson we learned in Tennessee as we struggled to establish statewide standards without the help of Federal guidelines. Doctors and hospitals fought each other, tooth and nail, across the front pages of newspapers in our State, arguing over which standards should be used.

Well, when all the experts who provide trauma care have agreed on a single set of national standards that deal with the patients' interests and what trauma care requires, then it is not time to go looking to the marketing department of the hospitals to come up with a different standard.

Last year, we came within inches of passing this bill into law. The House did pass it, but the Senate failed to act. In the end, Congress, in my view, succumbed to the pressure of those in health care who sometimes put the bottom line ahead of the patient's life. Let's not make that mistake again. I urge you to report out S. 15

with the American College of Surgeons' standards intact, and send a message to the Nation that the time has come to put the quality of patient care first.

Thank you, Mr. Chairman.

[The prepared statement of Senator Gore follows:]

Prepared Statement of Senator Gore

Mr. Chairman, thank you for inviting me to testify this afternoon.

First, let me acknowledge the leadership Senator Cranston has shown on this issue. He was the author of the 1973 "Emergency Medical Services Systems Act" that laid the foundation for the bill we are considering today. He has made an important difference in this critical area of health policy. It is indeed an honor to appear with him at today's hearing, and to have had the opportunity to work closely with him in developing the legislation that is the subject of today's hearing.

Mr. Chairman, I'm here today to express my strong support for a bill that is a matter of life or death for millions of Americans.

Trauma is the most important, most tragic, and most expensive health problem in the United States today. Each year, about 70 million persons are injured seriously enough to require medical attention in an emergency facility. Between 300 and 400 thousand of these individuals are permanently disabled. Another 140,000 lose their lives. Injuries are the leading cause of death up to the age of 44. They cause more lost working years than all forms of cancer and heart disease combined, with an estimated yearly economic cost to our Nation of over $130 billion.

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Yet, if you sit down and talk with the trauma experts, as I have done in Tennessee, they will tell you that the greatest tragedy isn't that doctors are losing patients, it's that the system is. We have the ability to save at least 25,000 of these lives and prevent tens of thousands of permanently disabling injuries each year through appropriate and prompt treatment, but too often appropriate care is received too late.

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A trauma care system is an organized approach to caring for the acutely injured patient. It is composed of four primary components: (1) access to care, (2) pre-hospital care, (3) hospital care, and (4) rehabilitation. The 1966 and 1973 laws focused on the first two components—access to care and pre-hospital care. These laws accomplished almost all of what they set out to do. The emergency medical services (EMS) we are familiar with—the ambulances, the emergency medical technicians and paramedics, are all a result of the 1966 and 1973 laws.

While these were critical first steps, the next steps are equally critical, especially hospital care. It doesn't do much good to have a sophisticated system that insures prompt transfer to the hospital only to have the patient die because the appropriate medical personnel are unavailable.

In 1976, a task force of the American College of Surgeons published a landmark document titled "Optimal Hospital Resources for Care of the Seriously Injured," in which standards for trauma centers were first established. In 1979, Congress began work on a process to designate trauma centers, but before this program was properly implemented disaster struck the trauma system. In 1981, the Emergency Medical Services System Act was repealed, and the program was folded, along with six other health programs, into a Preventive Health Block grant. While this provided States with a great deal of flexibility in implementing programs, progress on designating trauma centers all but stopped. It has left us with an efficient system of pre-hospital care, but in a muddle about the appropriate locations to which patients should be transported. The tragic result is patients dying, not because of their injuries, but because the system has failed them.

S. 15 is specifically designed to get us back on track in designating trauma centers. It establishes tough standards, endorsed by the medical experts, that will help States resist potentially disastrous pressure coming from local hospitals to liberalize certifying standards. Some local hospitals may not like it. In some cases, they fear that not being designated will hurt their ability to compete for patients in other services. While most hospitals are excellent, few can realistically make the commitment it takes to be a successful trauma center.

It is indeed a tragedy if changes in hospital reimbursement have prompted such fears, but that has made it all the more important to enact legislation addressing trauma center designation as soon as possible. S. 15 does just that. It assures every citizen of this country, whether he or she lives in a major city with six hospitals or in a remote rural county with none, that should tragedy strike, that at the end of the ambulance or helicopter ride, appropriate highly skilled personnel will be waiting.

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The quality of care you receive shouldn't depend on what State you happen to be injured in. The requirement that a neurosurgeon be present doesn't change from Tennessee to Illinois. Yet, that is what the proponents of "flexibility" are proposing.

I have read their statements. One of them lists the three most important characteristics of effective trauma care systems as "flexibility, stability, and assured access." The experts I have spoken with have a different list. It includes "making capable personnel immediately available, maintaining sophisticated and often expensive equipment, and assuring priority of access to operating rooms and other hospital facilities"—characteristics focused on saving lives and preventing disability.

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During today's hearing we will hear from the experts in trauma and emergency medicine, the doctors who spend their lives fighting to save patient's lives, pleading for our help in making the American College of Surgeons' guidelines the standard for the Nation. Yet, we will also hear from the representatives of hospitals, arguing for "flexibility" and 50 different State standards. Mr. Chairman, what leads hospitals to argue against the doctors who care for the patients?

I believe the evidence will reveal that too many hospitals prefer a system where the staff in their marketing department has more to do with whether they are called a "trauma center," than the staff in their emergency medicine department.

Mr. Chairman, it is precisely that sort of thinking by hospitals that leads to stories such as the one on the cover of this week's *Time*. That was the painful lesson we learned in Tennessee as we struggled to establish statewise standards without the help of Federal guidelines. Doctors and hospitals fought each other across the front pages of State newspapers arguing over which standards should be used.

When all the experts who provide trauma care have agreed on a single set of national standards, it is no time to go looking to those representing the special interests of hospitals for advice.

Last year, we came within inches of passing this bill into law. The House passed it, but the Senate failed to act. In the end, Congress succumbed to the pressure of those in health care who put the bottom line ahead of the patient's life. Let's not make that mistake again. I urge you to report out S. 15 with the American College of Surgeons' standards intact, and send a message to the Nation that the time has come to put the quality of patient care first.

Thank you.

Senator SIMON. We thank both of you.

Senator Hatch has joined us who, as I indicated earlier, is a sponsor of another legislative measure in this same area.

Senator Hatch, do you have an opening statement before we proceed?

Senator HATCH. I do, but I will not subject our Senators to that and I do not have any questions for our fellow Senators.

Senator SIMON. OK. Let me just toss two questions at both of you. One is, in the city of Chicago we have had two trauma centers close. How specifically would this legislation help in that kind of a situation?

Senator CRANSTON. Well, it would provide funding to trauma centers that are most severely stressed at the present time, as an

interim measure until the more comprehensive problem of uncompensated care is dealt with. That is a major problem. We have an interim solution, awaiting a longer-range solution.

Senator SIMON. Let me ask one other question here to both of you. In the southern third of Illinois—we are each a little provincial here, as you look at these kinds of problems—the biggest hospital is in Carbondale, IL, a town of about 26,000 people. Are the standards of the American College of Surgeons such that a hospital there can meet those standards?

For example, Senator Gore, you mentioned a neurosurgeon. Now, we have a neurosurgeon in that community. I do not know that we can have 24-hour-a-day neurosurgeons available. I do not know if that is part of the standard or not.

Senator GORE. Well, there are different levels established in the standards and they can meet Level l, Level 2, Level 3, and some communities will find the designation to be a designation to an appropriate level for the size of the community.

Senator SIMON. So, the Carbondale Memorial Hospital does not have to have the same standards as Presbyterian St. Lukes in Chicago?

Senator GORE. That is correct.

Senator SIMON. OK. I have no further questions.

Senator Hatch, do you have any?

Senator GORE. Let me just add to that briefly, Mr. Chairman.

Senator SIMON. Yes.

Senator GORE. Depending on the patient's needs, they will know, because of the standards, what the appropriate facility to go to is, but the answer to your question specifically is that facility will not have to go about meeting that in the same way as one in New York City or Chicago.

Senator SIMON. All right.

Senator CRANSTON. Also, I would like to point out that you get the emergency at the moment of the accident as rapidly as possible. If more specialized care is needed, then there can be a transfer to another hospital that has standards that may be higher to provide care that the original hospital may be unable to provide.

Senator SIMON. All right. Well, unless Senator Hatch has——

Senator HATCH. If I could comment, what you are imposing in your bill are the guidelines or standards developed by the American College of Surgeons and the American College of Emergency Physicians. It is hard for me to understand—and remember those guidelines are not even publically available yet because the American College of Surgeons are in the process of formulating new guidelines—it is hard for me to understand how you can impose those guidelines that are not even available yet on trauma centers all over the country. If you are going to use those guidelines, I do not see why they are imposed on the small and rural trauma centers as well as the large ones, and that is one of the problems with having a national set of standards. I am interested in your comments, because I do not see how that is possible.

Senator CRANSTON. There are present standards that they have promulgated. They are now revising them.

Senator HATCH. Yes.

Senator GORE. The new ones are out, actually, they are being printed right now. Here is a copy of them at the table, and I believe you will have other witnesses who will speak to that in more detail.

Senator HATCH. Well, would they not be applicable to the small centers and rural centers? Are you saying they devised the standards so that they do not have to rise to the standards of large centers?

Senator GORE. There are different levels of trauma centers and you would expect to find in a smaller community a level of care appropriate for the majority of trauma patients and the designation would be to that center that was met.

Senator HATCH. I would be interested in reading those.

Senator GORE. But if they needed a higher level of care, then they would know to where the patient should be taken for the next level.

Senator HATCH. Well, the only question I have—and it really is not a question, I just raise it for us to discuss, because I am dedicated to solving this problem, as both of you are, and I commend you for that effort. But the question I have is how can any two national groups set the standards for everybody, regardless of what the State or local problems are? I don't see why Utah, which has been identified as a model trauma care system, should have to change to be just like Maryland or New York. Or why should they have to change to be like Utah. I think we will end up with a constantly shifting set of standards that the Federal Government has to back, regardless of whether they work or not in the States.

Senator GORE. Well, it is not a—in response, let me just offer my opinion, with all due respect, that it is not a geographic question as to whether a neurosurgeon needs to be in the emergency room or not. That is the same in Tennessee or Illinois or Utah or California.

Senator HATCH. But a small city or a rural or frontier area may not have a neurosurgeon?

Senator GORE. Then the patient——

Senator HATCH. Then there is a——

Senator GORE [continuing]. Then the patient needs—the hospital in that area will then be designated as having the level of care that they are willing to invest in. But if the patient needs a higher level of care, then everybody will know that they need to be taken to where the care exists that the patient needs. If there are tradeoffs in distance and time, then the doctors at the scene can make those judgments. But to allow a situation where the marketing department of that hospital publicly advertises that they have everything they need for trauma care, and in the process mislead—perhaps inadvertently mislead—someone who is trying to figure out where to take that patient for the care that patient needs, into thinking that that hospital can do something that it cannot. It is a question of candor and it is a question that really turns on what the medical capabilities are. That is a technical question. That is a scientific, a medical question. And those who are most capable of answering that question have provided the answers.

This is what a hospital needs to have in order to provide good trauma care right here. That is what the doctors tell us, they know

it, we do not, and they know it an awful lot better than the marketing department of the hospital knows it.

Senator SIMON. If my colleague would yield, does not your legislation also give States the right to waive——

Senator CRANSTON. Yes.

Senator GORE. And that is really a basic minimum, it sets the base line——

Senator SIMON. It sets the minimum standard.

Senator GORE [continuing]. Then the States can waive it if they want to do that and explain to people that that is what they are doing.

Senator SIMON. Yes.

Senator CRANSTON. It also provides that States only have to adhere to the standards that are in place at the time of enactment of this legislation, so there would not be a constant shifting of standards.

Senator GORE. So, to that extent, it does have flexibility, but it shifts the burden of change. So, if they are going to take the step of waiving it and departing from what the medical experts are telling people is good trauma care, then they have to explain why.

Senator HATCH. You are saying if State and local governments have the waiver, then they can do whatever they want to under your bill?

Senator CRANSTON. They cannot waive the whole thing, but they can exercise a waiver if they have a legitimate reason or if they do not have a legitimate reason and they ask for it, but they can get it if they have a legitimate reason relating to one aspect or——

Senator GORE. The Secretary of Health has to agree that it is a legitimate reason.

Senator HATCH. Yes, and we all know what that means. I appreciate listening to your comments and I am going to study the new guidelines, both the American College of Surgeons and the American College of Emergency Physicians, and see what they are like.

Senator SIMON. We thank you both very, very much for being here.

Senator CRANSTON. Thank you both very much.

Senator SIMON. Let me call on Senator Hatch now to make a statement, and then we will hear our next witness.

STATEMENT OF HON. ORRIN G. HATCH, A U.S. SENATOR FROM THE STATE OF UTAH

Senator HATCH. Thank you, Mr. Chairman. I did not want to burden my two colleagues, because I know how busy they are, but I am pleased that we are having this hearing today and——

Senator SIMON. And you are willing to burden me.

Senator HATCH. And I am willing to burden you, especially since I used to be Chairman and I saw how many times I was burdened. [Laughter.]

No, I do not want to burden you, either, but I think this is an important hearing on improving our ability to respond to accidents in this country. According to the American College of Surgeons, whom we will hear from today, accidents cost this country well over $100 billion annually and result in 140,000 deaths.

One small area of this problem, motorcycles, gives us an idea of how devastating accidents can be. According to the Department of Transportation, 4,000 to 4,500 of the 4.8 to 5 million motorcyclists in this country die in accidents each year. That means that almost 1 in 1,000 motorcyclists dies each year.

I am particularly concerned about the trauma care in our rural areas. Injury rates there are twice as high as in large cities. And as we all know, it is these same rural areas that have suffered a disproportionate number of hospital closures. So, not only are there more accidents in rural areas, but also health care may be less available. In addition, these rural areas frequently have highly dedicated volunteer ambulance personnel, rather than full-time personnel, who are doing the best they can to provide quality emergency care. These rural areas definitely need our help.

A number of proposals have been introduced, both in the House and the Senate. Our colleagues have just spoken about their proposal and I want to commend them for their efforts and extend my hand to work with both Senator Cranston and Senator Gore in trying to fashion and come up with the right legislation that will help solve these problems and do the greatest good for the greatest number of people and communities in our society.

Unfortunately, there are a number of groups and organizations, including our State health officers, who have serious reservations about some of the provisions of the proposal which has been introduced. In an attempt to address these well-taken concerns, I have worked with the Utah State Health Department to develop an alternative, and I introduced this legislation on June 23 as part of S. 1274.

While there are many similarities between this legislation and S. 15, there are some important differences. First, I have always felt that the best way to deal with any disease is to prevent it before it occurs. Therefore, the legislation I have introduced includes accident prevention efforts as one of the permissible uses of funds, and I hope that some of the funding under these proposals will be used for activities such as seat belt awareness programs and motorcycle training programs.

A second difference between Title 5 of S. 1274 and S. 15 is that more of the resources in my proposal are focused on rural emergency medical service needs. As has already been noted, urban areas are far ahead of our rural areas in addressing the accident problem.

The third major difference is perhaps the most difficult to resolve. My proposal recognizes that different States have different problems. The best EMS system for Utah may not be the same as the best EMS system for New York or California or Illinois. Because of this, I would leave the control of the EMS system to the States who have to run them. I see no reason why Utah, or any State, should have to get permission from the Federal Government every time it wants to deviate from federally-imposed guidelines.

Some of the proposals which have been introduced would require States to comply with both current and future guidelines developed by the American College of Surgeons and the American College of Emergency Physicians. The effect of this requirement would be to give these two physician groups the authority to regulate the EMS

system. They would be able to impose burdens arbitrarily on States, hospitals, and other health care providers.

I have argued on a number of occasions that this type of regulation by private entity is unconstitutional, does not provide adequate due process protections to the public, and unless there is an explicit exemption from the Federal antitrust statutes, exposes those setting the guidelines to possible antitrust liability.

On June 2 of this year, I sent a letter to Attorney General Thornburgh asking him to look at this particular type of regulatory approach and to comment on these issues. I have not yet received a reply, but when I receive it, I will make it available to my fellow members of the committee.

A second option which has been proposed is to incorporate these guidelines into the legislation by reference. While this may avoid the constitutional problem, it is still questionable policy. As we will hear today, there are a number of objections to specific parts of these guidelines, and this is not surprising, since the guidelines are developed in private by a small group and without the benefit of public comment.

But even if the current guidelines were supported by everyone, we should still refrain from taking this approach, because it would lock the current guidelines in place, making it very difficult to respond to changes in our health care system. If changes were needed, nothing short of an act of Congress could make those changes, since the guidelines, whatever they are, would be set into law.

Now, it is my understanding that the American College of Surgeons are currently in the process of revising their guidelines. Senator Gore says they are done. I want to get a copy of them and I will read them. But because of this, we may not even know, since nobody has really seen them yet other than Senator Gore, I take it, and a few others, we may not even know what guidelines we are imposing on the States.

In addition, the bills reference the guidelines of both the American College of Surgeons and American College of Emergency Physicians. These guidelines are inconsistent in a number of areas and raises the question of whether States must comply with one or the other or both.

While these differences are important, I do, however, want to reemphasize that there are more similarities in our proposals than differences. I look forward to working with my colleagues on this legislation so that we can achieve our common goal of reducing the tragic numbers of injuries and deaths from accidents in the country.

Finally, Mr. Chairman, I would just say that I will approach this with an open mind. I have had some excellent people come in and visit me who are on the side of having these guidelines, and I want to keep an open mind on it, but I cite these as problems that will arise and have arisen and may be difficulties for us and we should be willing to face them both in testimony for the approach of Senators Cranston and Gore and in testimony in opposition thereto.

Thank you, Mr. Chairman.

[The prepared statement of Senator Hatch follows:]

PREPARED STATEMENT OF SENATOR HATCH

Mr. Chairman, I am pleased that we are having this hearing today on improving our ability to respond to accidents in this country. According to the American College of Surgeons whom we will hear from today, accidents cost this Nation well over $100 billion annually and result in 140 000 deaths.

One small area of this problem, motorcycles, gives us an idea of how devastating accidents can be. According to the Department of Transportation, 4,000 to 4,500 of the 4.8 to 5 million motorcyclists in this country die in accidents each year. That means that almost 1 in 1,000 motorcyclists die each year.

Another 170,000, or about one of every 29 riders, are injured each year. About one-half of these injuries are moderate to critical injuries. The Department of Transportation estimates that these accidents cost approximately $3.2 billion annually. Some studies have found that up to two-thirds of the health care costs associated with these accidents are paid for by society.

In addition to the legislation before us to improve the EMS system, we need to do more in this area. I have been working with the Motorcycle Industry Council in an effort to find additional solutions to this problem and I hope we will have some recommendations for this committee in the near future.

Another area where the accident problem is especially great is in our rural areas. Injury rates there are twice as high as in large cities. And as we all know, it is these same rural areas where we have been seeing our hospitals close. So, not only are there more accidents in rural areas, but health care may be less available. In addition, these rural areas frequently have highly dedicated volunteer ambulance personnel, rather than full-time personnel. These rural area need our help and helping them should be a major focus on this legislation.

Concern over these facts have lead to the introduction of a number of proposals, both in the House and the Senate. Our colleague, Senator Cranston has lead the way on this issue for years and has done more than any other member of this body to increase our awareness of this problem. I want to commend him for his efforts and extend my hand to work with him to enact legislation during this Congress.

Unfortunately, there are a number of groups and organizations, including our State health officers, who have problems with some of the provisions of many of the proposals which have been introduced. In an attempt to address these concerns, I worked with the Utah State Health Department to develop an alternative. I introduced this legislation of June 23 as part of S. 1274.

While there are many similarities between this legislation and S. 15, there are some important differences. First, I have always felt that the best way to deal with any disease is to prevent it before it occurs, rather than treat it after the fact. Because of this, the legislation I introduced includes accident prevention efforts as one of the permissible uses of funds. I hope some of the funding under this proposal will be used for things like seat belt awareness programs and motorcycle training programs.

A second difference is that more of the resources in my proposal are focused on rural States and States are required to focus on their rural emergency medical service needs. As has already been noted, our urban areas are far ahead of our rural areas in addressing the accident problem.

The third major difference is perhaps the most difficult to resolve. My proposal recognizes that different States have different problems. The best EMS system for Utah may not be the same as the best EMS system for New York or California. Because of this, I would leave the control of the EMS system to the States who have to run them. I see no reason why Utah should have to get permission from the Federal Government every time it wants to deviate from federally-imposed guidelines.

Some of the proposals which have been introduced would require the States to comply with both current and future guidelines developed by the American College of Surgeons and the American College of Emergency Physicians. The effect of these proposals would be to give these physicians the authority to regulate the EMS system. They would be able to arbitrarily impose burdens on States, hospitals, and other health care providers at will.

I have argued on a number of occasions that this type of regulation by a private entity is unconstitutional, does not provide adequate due process protections to the public, and unless there is an express exemption for our Federal antitrust statutes, exposes those doing the regulation to antitrust liability.

On June 2 of this year, I sent a letter to Attorney General Thornburgh asking him to look at this type of regulatory approach and comment on these issues. I have not yet received a reply, but when I receive it, I will make it available to the members of this committee.

A second option which has been proposed is to incorporate these guidelines into the legislation by reference. While this avoids the constitutional problem, it still is bad policy. As we will hear today, there are a number of concerns about and objections to specific parts of these guidelines. This is not surprising, since the guidelines were developed in private by a small group, without the benefit of public comment.

But even if the current guidelines were supported by everyone, we should not take this approach because this would lock the current guidelines in place, making it very difficult to respond to changes in our health care system. If changes were needed, nothing short of an act of Congress could make those changes since the guidelines would be locked into place.

I must admit, that I am not even sure what guidelines we would be locking into places since it is my understanding that the American College of Surgeons and the American College of Emergency Room Physicians are currently in the process of revising their guidelines.

While these differences are important, I want to reemphasize that there are more similarities in our proposals than differences. I look forward to working with my colleagues on this legislation so that we can achieve our common goal of decreasing the morbidity and mortality from accidents in this country.

Senator SIMON. Thank you, Senator Hatch.

Let me simply remind the witnesses that we will follow the 5-minute rule. Your full statement will be entered in the record. If you can keep your statement within 5 minutes, it will be appreciated.

Our first witness is Mr. Steven Kyler, who is an expert on this problem from an unusual vantage. Mr. Kyler, we are very happy to have you with us.

STATEMENT OF STEVEN KYLER, TRAUMA SURVIVOR, ADAMSTOWN, MD

Mr. KYLER. Mr. Chairman, I am honored to be here and I want to make one correction. I am not the trauma survivor, my wife and 10-month-old baby back there are.

Senator SIMON. All right. We saw that marvelous little baby around here and we want to make sure that baby and all of her counterparts everywhere get that kind of protection——

Mr. KYLER. Thanks to the trauma care.

Senator SIMON. All right.

Mr. KYLER. I do not know what kind of irony it is, but it is one year today, as we sit here, that the accident happened. I will also try to show that when it happens to somebody in your family, it is a lot more than just a statistic. I realize, when things come down to get voted on, that always comes down to statistics.

After returning home from a childbirth class, my wife, Michelle and I settled into bed at approximately 10 p.m., on July 24, 1988. Two people could not have been happier. We were living our version of the American dream. We just moved into our dream house in April, we were expecting our first child, whom we had waited 5 years for and about 6 weeks, and had just returned from a beautiful week at the beach. In less than 3 hours, our world would be turned upside down as our dreams turned into a nightmare.

Awakened by a noise at 12:30 a.m., July 25, I sat up and listened intently. Hearing nothing further, I assume it was a passing car and turned to go back to sleep. I then realized that my wife was not in bed. Jumping out of bed, I got no response in calling her name out and noticed that there were no lights on. Not finding her in the bathroom, I frantically began searching the house and I could not find her.

Standing in the kitchen, I heard a slight noise come from the basement stairway and proceeded to find Michelle sprawled on the concrete floor at the bottom of the stairs. I am sorry to tell this.

Senator SIMON. You go right ahead. We understand.

Mr. KYLER. She had fallen down the stairs while trying to negotiate her way around in the dark so as not to wake me up. Running down the stairs, I saw a lot of blood around her head area and realized she was completely motionless.

After calling 911 and our next door neighbor, I held her and pleaded and prayed for Michelle and our unborn baby to somehow survive this.

Two members of the Urbana Volunteer Fire Department arrived within a matter of minutes and, upon seeing blood from her ear, called for the Maryland State Police helicopter. They were told the helicopters were not flying that night because the fog was too thick. By now, several neighbors and an ambulance were on the scene. Michelle was placed in the ambulance and the MedSTAR Helicopter from Washington Hospital Center was sent out to pick her up. Now, that helicopter can fly in worse weather than the Maryland helicopters, apparently, at that time.

The ambulance transported her to the fire department, where the helicopter crew checked her vital signs and took her to the Washington Hospital Center shock trauma unit. It was apparent immediately that the medics on the helicopter were very highly trained and would provide the best care possible, short of the actual hospital. Riding with a neighbor, the 1-hour trip to the hospital in an automobile seemed like forever. With a vivid picture of what Michelle looked like when she boarded the helicopter, combined with the expressions on the faces of our neighbors and the firemen, you did not have to be a doctor to know her chances were not real good. I pretty much assumed——

Senator SIMON. It is tough, I know, but it is important for us to hear it and we appreciate it.

Mr. KYLER. I pretty much assumed that our unborn baby could not possibly survive a fall of this type.

Michelle's parents and the hospital chaplain were waiting when I arrived at the hospital. We were told Michelle had stopped breathing on the helicopter and had been placed on life support. We were soon told that a CatScan showed a large blood clot in the brain and a neurosurgeon would have to operate immediately. We were to learn 2 weeks later that Michelle had 1 hour to live when the operation was performed. Every minute, from the time I called 911 had been critical and normal ground transportation to a local hospital would have not afforded me the opportunity to write a happy ending to this story.

Michelle was taken off life support after 3 days, and after 3 weeks was transferred to the National Rehabilitation Hospital for rehabilitation of her brain injury. On September 6, she was transferred back to Washington Hospital Center, with possible indications of labor. On September 9, at 5:15 a.m., Michelle gave natural birth to a 7-pound-9-ounce bundle of joy named Heather Marie. All three of us returned home on September 11, 1988. In March 1989, Michelle finished up her outpatient treatment at NRH and was

given the clearance to drive an automobile again. She was fully recovered.

With all the fantastic opportunities this country offers, true happiness still comes from your loved ones and their good health. A near tragedy of this sort makes you realize how really trivial everything else really is. We can never hope to repay the debt of gratitude we owe to the entire emergency medical systems we had available to us last July 25—911, Urbana Volunteer Fire Department, MedSTAR Helicopter, WHC Shock Trauma, National Rehabilitation Hospital and all of the individuals associated with those facilities. You cannot possibly put a dollar amount on these services when your family needs them.

At a recent family gathering, a friend of the family heard the story and he was also disabled in Vietnam. After hearing the story, he looked at Heather and Michelle and he said, "I'm glad to see something good did come from Vietnam." He was referring to the MediVac helicopters.

Senator SIMON. We thank you for your testimony. For the record, let me just say that Michelle and Heather Marie are both here, and Heather Marie is making a little noise back there and it sounds marvelous to all of us. We are very proud of all three of you.

Mr. KYLER. Thank you.

Senator SIMON. Michelle, do you want to add anything here?

Ms. KYLER. No. Thank you, Senator.

Senator SIMON. I do not blame you. Well it is moving for all of us.

Ms. KYLER. I hold her and I cry sometimes, just because I am so happy I have her.

Senator SIMON. Well, your being here is helping to see that others can have that same kind of protection and help. We sure appreciate your being here. Thank you very, very much. We really appreciate it.

Mr. KYLER. Thank you.

Senator SIMON. And, Heather Marie, I want to meet you some other time a little later on. She is a future Senator already, I can tell, she's making a noise and you cannot understand what it is. [Laughter.]

We thank you very, very much, Mr. Kyler and Mrs. Kyler and Heather Marie, too.

Mr. KYLER. Thank you.

Senator SIMON. Next we have a panel made up of Dr. Charles C. Wolferth, Chairman of the Department of Surgery of Presbyterian Medical Center, and Chief of Region III, American College of Surgeons Committee on Trauma, in Philadelphia; Dr. Jacek Franszek, President, American College of Emergency Physicians, from Washington, DC, and Dr. Howard Champion, Chairman, Legislative Committee, American Trauma Society, here in Washington, DC.

We are very pleased to have all three of you here. Dr. Wolferth, we will start with you. Again, we will enter the full statements in the record.

STATEMENT OF DR. CHARLES C. WOLFERTH, CHAIRMAN, DEPARTMENT OF SURGERY, PRESBYTERIAN MEDICAL CENTER, AND CHIEF OF REGION III, AMERICAN COLLEGE OF SURGEONS COMMITTEE, PHILADELPHIA, PA

Dr. WOLFERTH. Thank you, Senator.

I am Charles Wolferth, chairman of the Department of Surgery at Presbyterian, chief of Region III of the American College Committee on Trauma. I am also a member of the Standards and Optimum Resource Committee—we heard some discussion on that today—and have had the opportunity of inspecting some hundred hospitals throughout the country with regard to trauma center designation.

The American College of Surgeons, since 1922, has been committed to the quality of care provided to victims of injury, and our activities include administering courses in advance life support to over 80,000 physicians, sponsoring postgraduate education and participating in accreditation and educational programs for pre-hospital personnel.

In addition, we have developed what has been termed the optimal resource document which you know as the standards of the American College of Surgeons. This was first published in 1976 and has been modified slightly and brought up to date on four separate occasions since that time.

However, the principle behind the standards of care that are espoused in this document have not changed. Trauma care is the same with regard to the availability of surgeons, physicians, and orthopedists personnel throughout the United States. It is not basically different in one area of the United States or the other, and I think this concept is extremely important to recognize.

These guidelines have been adopted by State and regional trauma systems throughout the Nation and studies have shown that, using these standards, there has been a dramatic reduction in preventable deaths. These criteria are an important component of S. 15, Senator Cranston's legislation, to encourage the development of trauma systems.

Of the five principal factors that determine whether a trauma victim lives or dies, three of these—the severity of injury, the age of the victim, and preexisting medical problems—are directly beyond our control. However, two crucial factors, the time from injury to definitive care in an appropriately staffed and equipped trauma center and the quality of trauma care, can be managed.

By failing to take the necessary steps to make the most of our trauma care resources, we as a society must take responsibility for the appropriately 25,000 unnecessary deaths and tens of thousands more injury-related disabilities that occur each year from inappropriate care.

For injured patients, time and the quality of care must make the difference between life and death, and whether the trauma victim lives the rest of his or her life fully recovered or with lasting impairment, with its high cost to the patient and to society.

The guidelines which are called the optimal resource document address the hospital care component of the trauma system, and

this is important to understand, that this does not address primarily EMS, but is addressing optimal care for the injured patient.

For the institution, optimal care means instituting protocols that make capable personnel immediately available, maintaining sophisticated and often expensive equipment, and assuring priority of access to the operating rooms, intensive care units and other required hospital facilities. For the medical staff, optimal care means commitment to the concept of availability, education, evaluation of treatment and outcomes, and personal dedication. Since trauma is a surgical disease, the heaviest commitment falls on surgeons.

The American College of Surgeons classifies trauma centers into three levels, according to their resources and the strength of commitment. The most sophisticated trauma care is available in Level I facilities, where experience, medical and surgical specialists, laboratory services and operating facilities are available in-house, 24 hours a day. These facilities serve as regional resource trauma centers.

Although Level I trauma centers serve as tertiary referral resources and fill many important national needs in assuring the delivery of optimal quality trauma care, it is not possible or even necessary for every community to have a Level I facility, and that may be further extended that not every State may need a Level I trauma facility, although that is the ideal.

In a nationwide trauma care network, Level II trauma centers would be the most numerous. These facilities will serve as community trauma centers to smaller cities and suburban areas, and in large areas that do not have teaching hospitals that can qualify.

Level III hospitals serve suburban and rural communities that do not have resources and capabilities associated with Level I and II institutions, but they are characterized by a strong commitment to trauma that is maximally commensurate with local resources.

In Level III centers, it is often impractical to have a general surgeon in-house 24 hours a day. But with modern communications, a trauma surgeon can be available in a Level III center to be in the emergency room at the time of patient arrival. The intent of this flexibility is to enable residents of small and rural communities to receive the best quality care. For Level III facilities, efficient transfer agreements and protocols are critical.

Senator SIMON. If you could summarize, it would be appreciated.

Dr. WOLFERTH. Yes, sir, I shall.

The American College of Surgeons commends you, Mr. Chairman and other members of this committee who have supported this legislation during both the 100th and the 101st Congress in your concern for reducing the unnecessary deaths which we must keep in mind at 25,000 per year. We emphasize that the guidelines that the college has written for this are guidelines and for optimal care of the injured and address three levels of care, which I have tried to outline to you, and further outlines what can be done for rural trauma centers which may not even reach a Level III but are an integral part of the entire system of trauma care in the United States.

Thank you very much.

[The prepared statement of Dr. Wolferth follows:]

PREPARED STATEMENT OF CHARLES C. WOLFERTH, M.D.

Mr. Chairman and Members of the Committee, I am Charles C. Wolferth, M.D., F.A.C.S., Chairman of the Department of Surgery at Presbyterian Medical Center in Philadelphia, Pennsylvania, and Chief of Region III of the American College of Surgeons' Committee on Trauma (which includes Pennsylvania, Maryland, Virginia, Delaware, West Virginia, and the District of Columbia). I am pleased to appear before you today on behalf of the College to discuss S. 15, the "Emergency Medical Services and Trauma Care Improvement Act of 1989," and other issues related to improving access to quality trauma care services.

ACS Involvement in the Treatment and Prevention of Trauma

The American College of Surgeons is a voluntary medical organization of over 50,000 Fellows, dedicated to elevating the quality of care for surgical patients through the continuing education of surgeons, and by raising the standards of hospital facilities.

The College and its Committee on Trauma are deeply committed to improving the quality of care provided to victims of injury. Our activities in this area include stimulating research into methods of treating injuries, and cooperating with other medical, scientific, and safety groups in efforts to prevent and treat injuries. We publish educational materials, and produce public service television announcements on topics such as seat belt use and the hazards of all-terrain vehicles. In addition, the College administers courses in Advanced Trauma Life Support (ATLS) for physicians and other health care personnel, sponsors postgraduate education courses for surgeons during the annual ACS Clinical Congress and at regional sites throughout the year, and participates in the process to accredit educational programs for emergency medical technicians-paramedics. Also, our trauma surgeons conduct on-site consultative visits at the request of hospitals to verify their commitment to become trauma centers.

In 1976, the College first published its guidelines for the hospital and prehospital resources necessary for optimal trauma care. These guidelines describe in detail the qualifications and level of commitment required of hospitals, medical personnel, and local communities to provide quality trauma care. The

College's guidelines have been adopted by state and regional trauma systems throughout the nation, and studies have shown that systems employing these standards have experienced dramatic reductions in preventable deaths. These criteria also are an important component of S. 15, Senator Alan Cranston's legislation to encourage the development of trauma systems.

Injury is a Major Public Health Problem

Severe injury is the most underrecognized major public health problem facing the nation today. It is the leading cause of death up to age 44, and up to age 34 it kills more people than all other diseases combined. For children, trauma is the number one killer -- causing more than 10,000 deaths each year in children under 14, and nearly four-fifths of the deaths that occur between ages 15 and 24. For each death caused by injury, three people are permanently disabled and 75 are temporarily lost to the workforce, with the burden of caring for them and compensating for their lost productivity placed on other individuals and on society as a whole.

The costs of trauma are not limited to death, pain, and disability -- the economic costs also are staggering. In 1987 alone, injuries cost this nation over $133 billion in lost wages, medical expenses, insurance administration, and other costs -- and this figure does not include injuries and deaths resulting from violent crimes and suicides. The largest single cause of trauma -- motor vehicle crashes -- costs the United States more each year than any class of disease other than cancer.

While most trauma deaths occur in urban areas, the impact of trauma is especially severe in rural areas. The death rate from accidental injuries in most rural areas is over twice the rate for the largest cities, and almost two of every three deaths involving motor vehicles occur in rural areas. In addition, rural occupations are extremely hazardous. Annual agricultural and mining death rates are approximately 50 per

100,000 workers, over four and a half times the death rate for all industries combined. In addition to these occupational deaths, approximately 300 children are killed each year while engaged in farm-related activities.

The Trauma System Concept

The greatest tragedy is that much of the pain, disability, death, and economic cost is avoidable. It is estimated that as many as 25,000 deaths would be prevented each year if systems were in place to promptly transport severely injured people to facilities with appropriate trauma care capabilities.

Trauma deaths occur in a pattern of three waves. The first deaths occur within minutes of injury, and are invariably due to severe lacerations of vital organs and blood vessels. These patients can rarely be saved, although some deaths have been avoided in large urban areas with rapid transport. The second and largest wave occurs within the first two hours after injury -- the so-called "golden hour" -- due to conditions such as unrecognized blood loss, hemopneumothorax, ruptured spleen, lacerations of the liver, fractured femur, or multiple injuries associated with major blood loss. These patients benefit most from expert care, and most of the deaths prevented by regionalized trauma systems are found in this group. The third peak occurs days or weeks after the injury and is most often due to infection and multiple organ failure. These patients also benefit from the expertise of surgeons and other specialists found in a trauma center.

Of the five principal factors that determine whether a trauma victim lives or dies, three of these -- the severity of the injury, the age of the victim, and pre-existing medical problems -- are beyond our control. However, two crucial factors -- the time from injury to surgical care in an appropriately staffed and equipped operating room, and the quality of trauma care -- can be managed. By failing to take the necessary steps to make the most of our nation's trauma care resources, we, as a society, must take responsibility for the approximately 25,000 unnecessary deaths and thousands more injury-related disabilities that

occur each year as a result of inappropriate care. For injured patients, time and quality of care make the difference between life and death, and whether the trauma victim lives the rest of his or her life fully recovered or with a lasting impairment, with its high cost to the patient and to society.

Regionalized trauma systems best meet this need for prompt, high-quality trauma care. Trauma systems have four main components:

- **Access.** Technological elements, such as communications equipment, emergency telephone ("911") systems, and radio frequencies for emergency medical services (EMS) communications, as well as public education programs, are needed to ensure access to care.
- **Prehospital Care.** Specially equipped ambulances and trained EMS personnel administer life support and provide rapid transport of patients to trauma care centers. Triage procedures employed by EMS personnel must be based on community plans that match patients' needs with available trauma care resources. Those with severe, life-threatening injuries are transported directly to the area trauma center, while patients with relatively minor injuries can be cared for in the nearest emergency room.
- **Hospital Care.** Specialized trauma facilities staffed by experienced surgeons and other trained health care personnel, with priority access to sophisticated equipment and services, provide the prompt, high-quality care that is needed to ensure that unnecessary death and disability are prevented.
- **Rehabilitation.** Access to rehabilitation services is vital to minimize patient disability and its accompanying costs to society.

ACS Guidelines for Optimal Trauma Care

The ACS trauma center guidelines, which are published in a document entitled "Hospital and Prehospital Resources for Optimal Care of the Injured Patient," address the hospital care component of a trauma system. For the institution, optimal care means instituting protocols that make capable personnel immediately available, maintaining sophisticated and often expensive equipment, and assuring priority of access to operating rooms and other hospital facilities. For the medical staff, optimal care means a commitment to the concept of prompt availability, education, evaluation of treatment and outcomes, and personal dedication. Since trauma is a surgical disease, the heaviest staff commitment falls on surgeons.

In planning for regional trauma needs, communities must designate hospitals for use according to skills and experience, costs, population density, and geography. This designation process must be conducted judiciously and without regard to local political concerns, for a delicate balance must be maintained to assure excellence in care and to prevent high resource and treatment costs from threatening the viability of the system.

ACS classifies trauma centers into three levels according to their resources and their strength of commitment. The most sophisticated trauma care is available in Level I facilities, where experienced medical and surgical specialists, laboratory services, and operating facilities are available in-house, 24 hours a day. These facilities serve as Regional Resource Trauma Centers. In addition to providing total care for every aspect of injury, Level I trauma centers maintain a leadership role in system development and evaluation, training of medical and surgical personnel, community outreach activities, and research. Although Level I trauma centers serve as tertiary referral resources and fill many important national needs in assuring the delivery of optimal quality trauma care, it is not possible -- or even necessary -- for every community or state to contain a Level I facility.

In a nationwide trauma care network, Level II trauma centers would be the most numerous. These facilities serve as Community Trauma Centers in smaller cities and suburban areas, and in large urban areas that do not have teaching hospitals that can qualify as Level I centers. Level II trauma centers maintain a deep and overriding commitment to caring for the seriously injured, and they are equipped to provide high-quality, sophisticated trauma care, 24 hours a day. The requirements for Level II trauma centers differ slightly from those that must be met by Level I centers for a number of reasons, including the geographic and population characteristics of the area being served, the resources that are available, and the smaller range of services that they provide beyond the scope of acute trauma care.

Level III hospitals serve suburban and rural communities that do not have the resources and capabilities associated with Level I and Level II institutions, but they still are characterized by a commitment to trauma that is commensurate with local resources. For example, in Level III centers it often is impractical to keep a general surgeon in-house 24 hours a day. However, modern communications systems can allow a trauma surgeon in a Level III facility to be promptly available and in the emergency room at the time the injured patient arrives. The same may be true of other on-call personnel such as laboratory technicians, x-ray technicians, and operating room nurses. The intent of this flexibility is to enable residents of small and rural communities to receive the best possible care. For Level III facilities, efficient transfer agreements and protocols for the most severely injured patients are crucial.

Optimal Trauma Care in Rural Settings

Trauma system development in rural areas presents a formidable challenge because of characteristic geographic barriers, transportation difficulties, low population density, and inadequate professional, institutional, and financial resources. In the most remote communities, initial transport even to Level III facilities is not a viable option. Yet, as mentioned earlier, rural populations suffer especially from inadequate trauma care. Since it can never be possible for these areas to support the personnel or facilities that are available in large cities, only statewide organization of trauma care resources can enable rural residents to receive the state-of-the-art trauma care they need and deserve.

Rural trauma often is unwitnessed, and may be associated with delay in discovery. The emergency system response to trauma is impeded by long travel distances and the limited training available to emergency medical technicians. Not only is the injured patient more likely to reach the health care facility in a physiologically deteriorated state, but trained surgical personnel usually are not available to provide early assessment and resuscitation in the emergency room. Further, in most cases the responding physician has limited experience with patients who have multiple injuries.

The rural community must objectively assess its commitment and institutional characteristics so that trauma patients can receive optimal care within the constraints of the available resources. In addition, the state trauma system should ensure that all hospitals which receive injured patients have physicians who are trained in Advanced Trauma Life Support, effective communications capabilities, and protocols that enable timely transfer of patients to trauma facilities elsewhere in the region.

Comments on S. 15

Under S. 15, Title XII of the Public Health Service Act would be reinstated and labeled "Trauma Care." States would be required to submit annual plans to the Secretary of Health and Human Services in order to receive grant funds for use in planning and implementing comprehensive trauma care systems within their existing EMS plans. According to a 1986 report prepared by the U.S. General Accounting Office, the trauma care component of most state EMS plans is seriously underdeveloped. ACS believes that increased federal leadership and financial support for trauma care will provide important incentives for states to address this serious deficiency in their EMS systems.

The designation of special centers that have made the greatest commitment to providing quality trauma care services is essential to the trauma system concept. S. 15 requires the state trauma system plans to include minimum standards for the designation of trauma centers and for triage, transfer, and transportation policies that are equivalent to the guidelines developed by the American College of Surgeons and the American College of Emergency Physicians.

During the development of the ACS guidelines, great consideration was given to special problems of geography, population density, community and regional resources, availability of personnel, and cost. The College firmly believes that the resources listed in its guidelines are essential to providing high quality trauma care, and that facilities which have made a true commitment to providing such care would not find them unreasonably burdensome. However, the College recognizes that the minimum trauma center stan-

dards developed by the states must be suited to unique local circumstances, and, in the trauma center verification visits conducted by its trauma surgeons, the College has always applied its guidelines with a certain degree of flexibility. Appropriately, S. 15 reflects the need for a reasonable measure of flexibility by permitting states to petition the Secretary of HHS to waive compliance with particular guidelines, only if the need can be justified and it can be demonstrated that the availability and quality of trauma care would not be diminished.

ACS believes that this waiver provision will be especially helpful to the states as they design plans to meet the unique trauma and EMS needs of their rural regions. However, S. 15 also contains other provisions that are intended specifically to address problems caused by injury in rural areas:

- The Clearinghouse on Emergency Medical Services and Trauma Care would be required to collect, compile, and disseminate information on the achievements and problems of entities that provide EMS and trauma care, giving special consideration to the needs of rural areas.
- As part of the grant application process, each year states will be required to provide the Secretary of HHS with information on the availability of EMS and trauma care in rural areas, including emergency telephone service ("911") access and the availability of emergency response personnel with training in Basic Life Support and Advanced Life Support techniques.
- Authorized uses of Water and Waste Facility Loans and Grants made under the Consolidated Farm and Rural Development Act would be expanded to include emergency telephone service.
- The bill's restriction on spending federal funds to improve facilities or purchase equipment could be waived if a state can demonstrate that trauma system development cannot proceed without such purchases.

In addition, we understand that Senator Cranston and others are in the process of drafting an amendment that would create a competitive grant program for states to carry out various activities to improve rural emergency medical services.

Trauma care services are very expensive, and many injured patients are poorly insured young people and victims of crime. Consequently, reimbursement is a serious problem that often threatens the financial stability of individual centers and the viability of entire trauma systems. The problem of uncompensated trauma care underscores the need for careful system planning. When too many trauma centers are designated, service area boundaries are drawn poorly; caseloads of inner-city hospitals may not contain enough of the wealthier and better insured suburban patients to offset unreimbursed care provided to low income, urban patients. Often these poorly designed systems collapse because essential urban centers are unable to sustain their commitment and participation.

Even where there is careful planning, uncompensated care costs may threaten system viability. S.15 addresses this issue by requiring at least 35 percent of each state's grant to be spent to offset a portion of the uncompensated trauma care provided by designated centers. Although the available funds can in no way solve the trauma center reimbursement problems facing some systems, it is the hope of the bill's supporters that this concrete gesture will encouraged financially troubled centers to continue providing care until a broader solution is found. It also is worth noting that the bill would allow states that do not have a significant uncompensated trauma care problem to petition the Secretary to adjust this 35 percent figure downward, so that more money can be spent on necessary planning and development activities.

Conclusion

S. 15 enjoys the support of over 30 organizations which, taken as a group, represent the broad spectrum of individuals, institutions, and professional groups most interested in the accessibility of optimal trauma care services. These organizations represent surgeons and other physicians, nurses, prehospital care providers, hospitals, state program directors, patients, and the families of trauma victims. The need for this legislation is clear, and the support is overwhelming.

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The American College of Surgeons commends you, Mr. Chairman, and the other members of this committee who have supported this legislation during both the 100th Congress and 101st Congress – for your commitment to reducing the unnecessary death and disability that is inflicted on our nation's trauma victims. Passage of S. 15 will be an important milestone in our battle to reduce the immense personal, economic, and social costs this nation bears due to injury.

Thank you for this opportunity to appear before you today. I would be pleased to answer any questions that you may have.

OPTIMAL CARE IN THE RURAL SETTING

The majority of the guidelines developed for trauma care and reported in this document are focused on experience gained in the urban model. The development of systems to provide trauma care in the rural setting offers challenges that are dissimilar to those that have been encountered in the urban environment.

Trauma remains a major problem for those who are committed to providing the best possible care for our rural population, as evidenced by the fact that two-thirds of all highway traffic deaths occur in rural settings. For any given injury severity, the chances of dying in the rural environment are greater than in the urban setting. The development of a rural trauma system faces major impediments because of geography, transportation, population density, and availability of professional, institutional, and financial resources.

Rural trauma is often unwitnessed and may be associated with delay in discovery and access to care. The emergency medical system's response is hindered by distances and by the almost uniform application of only basic level EMT skills. Rural manpower and educational resources are limited. Rural EMTs are often volunteers with limited skills, but these EMTs are called on to resuscitate and transport patients with comparatively severe injuries ordinarily cared for by advanced paramedics in the urban setting. Furthermore, skills are more likely to deteriorate in the rural setting because of infrequency of use. The result is often the arrival at the hospital of a trauma victim who has physiologically deteriorated more than expected for any given severity of injury.

The initial patient encounter, in a rural institution, is usually the responsibility of the emergency department nurse while he/she awaits the arrival of a physician who must respond from outside the hospital. Consequently, early assessment and resuscitative duties fall with a heavier burden on the rural emergency nurse than on his/her urban counterpart. The responding physician most often is not surgically trained, but rather is engaged in family practice, and infrequently encounters the multiply injured patient. For that reason, maintaining training and skills in trauma resuscitation requires a high level of commitment. The rural general surgeon, although well-trained, may have difficulty maintaining his or her skills because of infrequent exposure to the severely injured patient. Most physicians must begin early resuscitation without a surgeon's presence to control hemorrhage

and without the benefit of prompt surgical specialty consultations.

Limited rural resources entail more frequent use of secondary transport than is usually needed in an urban setting. Primary transport to a Trauma Center is not a viable option in most of rural America.

The initial resuscitation and treatment of the trauma patient, in the rural hospital, is a result of the combination of resources, health professions qualifications and availability, and severity of injury. Eighty-five percent of patients who have neither life threatening nor urgent injuries can be treated by the surgeon in his/her facility with appropriate referral to specialty surgeons when needed, or rehabilitation programs upon discharge.

It is the five to ten percent incidence of life threatening injuries that tax the rural hospital and general surgeon. The primary goal is to transfer this patient, as soon as possible, to a higher level of care unless the patient would die from hemorrhage or correctable intracerebral injury during the transfer process. The majority of patients with closed head injuries do not have mass lesions. These patients can be temporarily treated by existing protocols. In those few instances where the patient with a closed head injury has a mass lesion, and transfer time would jeopardize outcome, it may be necessary for the general surgeon to decompress the hematoma, provided that he has received appropriate prior training.

Similarly, some patients with life threatening injuries might bleed to death during transfer. The surgeon in the rural hospital must attempt to control this hemorrhage prior to transfer, recognizing that blood and blood products are limited in this setting. There is often no other alternative, which emphasizes the trade-offs in judgement required of rural general surgeons.

If temporary control of cerebral edema, mass lesions, or hemorrhage can be achieved, the patient should (may) then be transferred to a regional trauma center for optimal intensive care.

The rural trauma system must pay particular attention to the following:

A. Prehospital
   1. 911 telephone access
   2. Unified dispatch

3. Reduced scene time
4. Rapid transport
5. Coordination of BLS-ALS transport
6. Medical control

B. Emergency Department Management
   1. Emergency Department nurse training
      a. Specialized trauma curriculum
   2. Notification and response of physician response prior to patient arrival
   3. Physician education (initial and periodic)
      a. ATLS
   4. Rapid support service response
   5. Organization and availability of equipment for critical trauma intervention

C. Assessment of Capabilities and Performance
   1. Quality assurance
   2. Surgical intervention and resuscitation
   3. Trauma diagnostic capabilities
   4. Blood and blood products
   5. Operating room capabilities
   6. Intensive care capabilities
   7. Surgical consultation arrangements
      a. Community hospital
      b. Trauma referral institution
   8. Disaster planning

D. Interhospital Transfer
   1. ALS availability
   2. Transfer agreements
   3. Specialty consultation
   4. Definitive Trauma Center access

E. Community Resources
   1. Financial commitment
   2. Community response (Red Cross, Civil Defense)
   3. Law enforcement
   4. Unified communication

The rural community must objectively assess its commitment to trauma care, its resource capabilities, and its institutional characteristics so that trauma patients can receive optimal care within the constraints of resources available. An objective assessment of those injuries which require greater resources for optimal treatment must be made, and arrangements for the trauma patient to reach a higher level of care in the shortest possible time, whenever necessary, is essential.

Senator SIMON. Thank you, Dr. Wolferth.
Dr. FRANASZEK.

STATEMENT OF DR. JACEK B. FRANASZEK, PRESIDENT, AMERICAN COLLEGE OF EMERGENCY PHYSICIANS, WASHINGTON, DC

Dr. FRANASZEK. Mr. Chairman, I am Jacek Franaszek, president of the American College of Emergency Physicians and a practicing emergency physician from Hinsdale, IL, in the suburban Chicago area.

As you know, Illinois was a pioneer State in the development of trauma care and trauma care systems. I am appearing today on behalf of the 12,700 members of the college, to lend our support to the Emergency Medical Services and Trauma Care Improvement Act of 1989.

As an organization of physicians actively engaged in the practice of emergency medicine, we face the tragic results of injury and accidents both in adults and children 24 hours a day. We see daily victims who die or remain severely injured for the rest of their lives—for me, as recently as 8 hours ago. It is from this unique viewpoint that we appear today to vigorously support the enhancement of our national emergency trauma care system through passage of this important legislation.

The statistics on trauma injuries in America are staggering, more than 140,000 Americans die from injuries each year, trauma kills more Americans in the 1 to 34 age group than all other diseases combined, and is the leading cause of death among persons up to the age of 44. We know, however, that these numbers can be significantly reduced through the delivery of appropriate trauma care as part of an integrated system for the provision of emergency medical services. The systems approach to trauma care in which emergency services, communications, training and prevention education are coordinated on a regional basis would, without a doubt, improve quality and reduce mortality.

Our standards do make a distinction between urban and rural systems requirements and were published in 1987.

Improvement of the quality of trauma care services requires commitment to each of the trauma care system components, including public access, training, communication, triage, a term used to describe sorting of patients, pre-hospital care, transportation, hospital care, rehab, public education and quality assurance. We are gratified, therefore, to see our guidelines for trauma care systems included in the bill. Use of the college's guidelines will insure a minimum level of care for those in need of emergency care whenever such need occurs.

Regrettably, there are no such standards in some areas of the country. In fact, our college issues the only guidelines that address the entire trauma system.

The American College of Emergency physicians has involved a variety of organizations and perspectives in developing its guidelines, including the American Ambulance Association, the International Association of Fire Chiefs, the National Association of Emergency Medical Technicians, and the National Association of EMS Physicians.

In addition, and importantly, the American Hospital Association participated in the development of these guidelines that we offer. We believe this inclusive approach guarantees that all perspectives are heard in the development of our guidelines and dispels any notion that we might unilaterally dictate standards which States must meet.

These standards provide a framework which still allows community involvement in the process, defining precise relationships at the local level.

The legislation also allows the Secretary to grant a State a waiver of the college's guidelines after public notice and hearing, if the waiver will not diminish the availability and quality of care. This provision guarantees input from the States concerning their ability to comply with the guidelines and permits a waiver when appropriate.

The college would support an additional safeguard that would mandate that the college guidelines in effect when a State received its appropriation under this Act would be the guidelines which the State would adhere, unless Congress permitted a change. In this way, States would know that no precipitous changes would be made midway through the grant cycle. We believe that it is critical important that national standards be established and adhered to regarding the entire trauma system. With the above safeguards in place, we can see no potential negative impact of their use.

We are also pleased that S. 15 has included language requiring hospitals to provide a call schedule to list the appropriate medical specialties that would be immediately available to provide treatment after the initial examination by the emergency physician. Such a requirement would guarantee the necessary follow-up care that emergency physicians do not provide and recognizes the need to include on-call physicians and hospitals in the prohibitions against unwarranted transfers.

In conclusion, Mr. Chairman, we urge the committee to expeditiously approve this bill. This legislation will save lives and improve patient care dramatically. Establishing trauma systems and supporting the costs related to trauma care must become a greater Federal priority and responsibility. We, too, are alarmed at the trauma center closures in Los Angeles, Chicago and elsewhere, since these unfortunate developments limit access to emergency health care and trauma care for our patients.

We do not need to prove the effectiveness of trauma systems in saving lives. We need to better organize and fund those systems. This bill will greatly contribute to that effort. We appreciate your consideration of our views and look forward to working with you to implement this important legislation.

[The prepared statement of Dr. Franaszek follows:]

PREPARED STATEMENT OF JACEK B. FRANASZEK, M.D.

Mr. Chairman, I am Jacek Franaszek, President of the American College of Emergency Physicians (ACEP) and a practicing emergency physician from Hinsdale, Illinois. I appear today on behalf of the 12,700 members of the College to lend our support to S. 15, the Emergency Medical Services and Trauma Care Improvement Act of 1989. Appearing with me is Thomas Nickels, ACEP's Director of Government Affairs.

As an organization of physicians actively engaged in the practice of emergency medicine, we face the tragic results of injury and accidents both in adults and children twenty-four hours a day. We see up close victims who die or remain severly injured for the rest of their lives. It is from this unique viewpoint that we appear today to support the enhancement of our national emergency medical system and trauma care system through passage of this important legislation. In our view, trauma care must become a national priority. Regrettably, barriers continue to exist in many areas that prevent the delivery of effective emergency medical services, and some states and communities still lack coordinated trauma care systems.

The statistics on trauma injuries in America are staggering. The Committee on Trauma Research of the National Research Council's Commission on Life Sciences noted in its report Injury in America that more than 140,000 Americans die from injuries each year. Physical trauma kills more Americans aged 1-34 than all other diseases combined, is the leading cause of death among persons up to the age of 44, and is the third leading cause of death in

the general population. Further, injuries are the leading cause of disability among persons of all ages. More than 62 million are injured in accidents yearly, of which 8.4 million are temporarily disabled, and 350,000 permanently disabled. We know, however, that these numbers can be significantly reduced through the delivery of appropriate trauma care as part of an integrated system for the provision of emergency medical services.

Trauma care represents a continuum that is best provided by an integrated system extending from prevention through rehabilitation, and requiring close cooperation among specialists in each phase of care. A systems approach to trauma care in which emergency services, communications, training, and prevention education are coordinated on a regional basis would doubtlessly improve quality and reduce mortality.

Some concerns have been raised regarding increased funding for trauma care in light of the federal budget deficit. Upon closer examination, however, it is clear that this legislation is consistent not only with the public interest but with deficit concerns as well. Trauma care and recovery cost our nation over $135 billion each year in medical expenses, insurance, administrative costs, property damages, and other indirect costs. Were an effective system in place, the annual loss of thirty-one billion dollars in lost wages of trauma victims who are in their productive work years could be

reduced, and many individuals would have a greater likelihood of returning to the workplace. Spending on improvements in trauma care can ultimately achieve savings.

In addition to these alarming figures, we are concerned about the recent disturbing trend of hospitals withdrawing from trauma networks. Many patients needing such care are indigent, and the increasing burden of uncompensated care has had a detrimental impact on hospitals' abilities to maintain effective trauma systems. Trauma centers in Los Angeles, Miami, Washington, DC, and Chicago have closed in recent months, and the trand may indeed worsen.

While the solution to this problem lies in both compensating hospitals and physicians for uncompensated care and addressing the societal and environmental factors that cause individuals to use emergency departments, increased funding for trauma care can also help. This legislation, although not a total solution, can make trauma care more available to more Americans, and begin to reverse the frightening trend toward less and less access to needed care.

Three principles have evolved over time regarding trauma care: decreasing death and disability requires improving quality of care; improving the quality of care requires timely access to tertiary care; and providing timely access

to tertiary care requires trauma care systems.

The College coordinates with an emergency medical systems (EMS) coalition which includes the American Ambulance Association, the International Association of Fire Chiefs, the National Association of Emergency Medical Technicians, and the National Association of EMS Physicians. All of these organizations are also concerned about trauma care systems as part of EMS systems, and are in support of the provisions of this bill.

To improve the quality of trauma care services requires a commitment to each of the trauma care system components, including public access, training, communication, triage, pre-hospital care, transportation, hospital care, rehabilitation, public education and quality assurance. The College is gratified, therefore, to see that the "Guidelines for Trauma Care Systems", adopted by the American College of Emergency Physicians, are included in the section of the bill regarding certain standards with respect to trauma care centers and systems.

We are aware that concerns have been raised regarding the inclusion of ACEP's guidelines in the legislation. However, we believe these concerns are unwarranted for a number of reasons. First, use of ACEP's guidelines will ensure a minimum level of care for those in need of emergency care wherever

such need occurs. Regrettably, there are no such standards in some areas of the country. In fact, ACEP issues the only guidelines that address the entire trauma system.

Second, ACEP has involved a variety of organizations and perspectives in developing its guidelines, including the above organizations representing ambulance personnel, fire chiefs, state EMS directors, emergency medical technicians, and other physicians. In addition, the American Hospital Association participated in the development of the guidelines. We believe this inclusive approach guarantees that all perspectives are heard in the development of our guidelines, and dispels any notion that we might unilaterally dictate standards which states must meet.

Third, the legislation also allows the Secretary of Health and Human Services to grant a state a waiver of the ACEP guidelines, after public notice and hearing, if the waiver will not diminish the availability and quality of care. This provision guarantees input from the states concerning their ability to comply with the guidelines, and permits a waiver when appropriate. The College would support an additional safeguard that would mandate that the ACEP guidelines in effect when a state received its appropriation under this Act would be the guidelines to which the state would adhere unless Congress permitted a change. In this way, states would know that no precipitous changes could be made midway through the grant cycle.

ACEP believes that it is critically important that national standards be established and adhered to regarding the entire trauma system. ACEP publishes the only such guidelines. With the above safeguards in place, we can see no potential negative impact of the use of ACEP guidelines, and urge the Committee to continue to include those guidelines in the legislation.

S. 15 includes provisions related to inappropriate patient transfers similar to those enacted by Congress in the Consolidated Omnibus Budget Reconciliation Act of 1986 (COBRA). The College has long-standing policy against the inappropriate transfer of unstable patients, and has worked with Congress to ensure that no such transfers occur. In fact, ACEP has recently worked with the House Ways and Means Committee on its patient transfer amendments to COBRA, which are included in the Committee's budget reconciliation package for Fiscal Year 1990. That legislation, if enacted, would provide that on-call physicians are "responsible" physicians under COBRA, and that emergency physicians are not "responsible" physicians under the Act when on-call physicians fail or refuse to respond to a request by an emergency physician to provide care to a patient. We believe this is an equitable and long overdue change that will strengthen the law and improve patient care.

We are also pleased that S. 15 has included language requiring hospitals

to provide a call schedule that lists the appropriate medical specialties that will be immediately available to provide treatment after the initial examination by the emergency physician. Such a requirement will guarantee the necessary follow-up care that emergency physicians do not provide, and recognizes the need to include on-call physicians and hospitals in the prohibitions against unwarranted transfers. The bill will doubtlessly assist in eliminating the unacceptable practice of "patient dumping."

In conclusion, Mr. Chairman, we urge the Committee to expeditously approve S. 15. This legislation will save lives and improve patient care dramatically. Establishing trauma systems and supporting the costs related to trauma care must become a greater federal priority and responsibility. We do not need to prove the effectiveness of trauma systems in saving lives; we need to better organize and fund those systems. S. 15 will greatly contribute to that effort.

We appreciate your consideration of our views, and look forward to working with you to implement this important legislation.

TN:mm

Senator SIMON. Thank you very, very much. We appreciate your testimony.

Dr. CHAMPION.

STATEMENT OF DR. HOWARD R. CHAMPION, CHAIRMAN, LEGISLATIVE COMMITTEE, AMERICAN TRAUMA SOCIETY, WASHINGTON, DC

Dr. CHAMPION. Thank you, Mr. Chairman.

I am here representing the American Trauma Society, which is but one of many organizations of multiple medical disciplines and consumer organizations backing this bill.

Let me begin by commending Senator Cranston for introducing S. 15, which, if enacted, will help save 20,000 to 25,000 lives of Americans who die needlessly each year because the United States, unlike other Western nations, does not have a network of organized trauma care systems. The introduction of S. 15 by Senator Cranston is the latest in a long career of distinguished commitment to fostering the development of emergency medical services in this country.

Let me also commend Senator Hatch for his leadership in recognizing the central role that medical liability concerns play in stimulating unaffordable health care costs that are jeopardizing access to essential health care services. I particularly applaud him for his recognition that one important way to address the practice of defensive and bad medicine is to support the development of treatment practice guidelines based, where possible, on patient outcome research.

That is precisely the right approach, and it is the approach that has been taken by the American College of Surgeons toward the development of trauma systems. The college proceeds on four fronts to ensure that treatment practice and health care delivery systems are implemented in the most effective way to limit mortality and morbidity from injury.

First, as you have already heard from Dr. Wolferth, the ACS document, "Resources for Optimal Care of the Injured Patient," is one of the most explicit statements on record concerning health care delivery systems addressing a specific disorder or disease, and we have recently modulated those and fine-tuned them, with particular reference to the needs of rural trauma care.

Second, the college has put into place a trauma center verification process, based on the guidelines documents. This explicit goal, again, is to assess the system's effectiveness in limiting mortality and morbidity.

Third, the college also sponsors training in Advanced Trauma Life Support, to insure that front-line physicians and other health care professionals are provided with the structural guidelines for initial diagnosis and management of individuals sustaining major injuries. The college has provided ATLS training for over 80,000 physicians.

Fourth, through its Committee on Trauma, the American College of Surgeons coordinates the Major Trauma Outcome Study. This important effort correlates severity of injury with patient outcome, thus providing a database for quality of care assessment assurance.

As principal investigator of the MTOS, I can report that, as of 1988, the study contains over 120,000 trauma cases treated in the United States, representing the largest contemporary injury database in existence.

These combined efforts may be responsible for the fact that it is extraordinarily rare for a trauma surgeon or a qualified trauma center to be sued for malpractice.

Trauma care, in short, is at the cutting edge of the thrust to base public policy decisions on effectiveness-of-care measures. Trauma care and the American College of Surgeons' guidelines represent everything Senator Hatch has so wisely espoused. Any legislation that alleges to seek to improve trauma care in this Nation that is not based on utilization of the American College of Surgeons' guidelines and standards contradicts his own views about treatment practice guidelines, and I believe is not worthy of support. Serendipity should not dictate survival.

I would like also to make a few comments about uncompensated trauma care. Here again, I want to commend both Senator Cranston and Senator Hatch for offering proposals to address this critical problem that is threatening the viability of trauma centers across the Nation. However, I have to stress that neither proposal can possibly be enough. A few million dollars is not going to save our trauma centers. Losses per center typically run between $1 million and $3 million a year. Nationwide, it is estimated that the trauma care represents $1.6 billion of the $7 billion in unsponsored care provided by acute care hospitals.

The problem is largely twofold—a disproportionate share of trauma patients are uninsured, and trauma care costs two to four times more than care for the average patient. Across the Nation, approximately 30 percent of all trauma patients are uninsured. This, in turn, is largely due to the fact that trauma patients are disproportionately young and/or indigent, inner city, victims of intentional injury. Fully, 65 percent of the Major Trauma Outcome Study sample is under the age of 35, with 30 percent of the sample falling between the age of 15 and 24. Fifty-four percent of this age group was injured in motor vehicle crash; 20 percent in a motorcycle crash, and 80 percent in other types of vehicles.

While in all but 10 States, motor vehicle operators are required to carry liability insurance, only 2 no-fault States ensure that the driver's health bills are also covered. Unless a driver is motivated to purchase health insurance, he may choose not to do so. Unfortunately, the young driver, often a low-wage worker whose employment does not subsidize health insurance coverage, or a college student faced with high educational costs, frequently chooses not to purchase coverage. This individual is at higher risk than others for serious injury and posers a higher risk for uncompensated care costs.

Trauma care also costs more—$10,000 to $12,000, on average, for the initial admission, compared with the average charge per acute hospital stay of approximately $4,000. Highest total costs for one whole year of injury-related care, including physician fees and all rehabilitation services, averages $45,000 in 1988 dollars.

But despite this high initial cost, trauma care appears to be extremely cost effective. If a seriously injured patient receives expert

trauma care in time, his or her chances of returning to full-time employment are at least 85 percent. The typical 20-year-old trauma patient injured in a motor vehicle, who earns $20,000 on average of a 40-year employment history, will pay back $45,000 for his care in 6 years in Federal, State and local taxes alone, and over 40 years his employment will contribute $2.6 million to the gross national product, and a total of nearly $950,000 in taxes.

In closing, I want to thank you again, Mr. Chairman, for inviting me to testify and for your strong support of S. 15. I would like to submit for the hearing record the Summary and Findings section of a document entitled, "An American Crisis in Trauma Care Reimbursement." The paper provides information on the problem of injury in the U.S. trauma care and trauma systems of care, a profile of trauma patients based on the MTOS database, and a review of the reimbursement problems faced by trauma centers and a discussion of potential solutions.

I would be glad to answer any questions that you might have.

[The prepared statement of Dr. Champion follows:]

PREPARED STATEMENT OF HOWARD R. CHAMPION, M.D.

Mr. Chairman, Senator Hatch, and other members of the Labor and Human Resources Committee, I am Howard R. Champion, M.D., F.A.C.S., Chief of the Level I Trauma Service, known as MedSTAR, at the Washington Hospital Center in Washington, D.C. I am also Chairman of the Legislative Committee, as well as a Member of the Board of Directors, of the American Trauma Society.

I am pleased to have the opportunity to appear before the Committee to comment on S. 15, the "Emergency Medical Services and Trauma Care Improvement Act of 1989." Let me begin by commending Senator Cranston for introducing S. 15 which, if enacted, will help save 20-25,000 Americans who die needlessly each year because the United States, unlike other Western nations, does not have a network of organized trauma care systems. Introduction of S. 15 is Senator Cranston's latest effort in a long career distinguished by commitment to fostering the development of emergency medical services in this country.

Let me also commend Senator Hatch for his leadership in recognizing the central role that medical liability concerns play in stimulating unaffordable health care costs that are jeopardizing access to essential health care services. I particularly commend you, Sir, for your recognition that one important way to address the practice of defensive medicine is to support the development of treatment practice guidelines based, where possible, on patient outcome research.

That is precisely the right approach, and is the approach taken by the American College of Surgeons toward the development of trauma systems. The College proceeds on four fronts to ensure that treatment practice and health care delivery systems are implemented in the most effective way to limit mortality and morbidity from injury.

First, as you have already heard from Dr. Wolferth, the ACS document, "Resources for Optimal Care of the Injured Patient," is one of the most explicit statements on record concerning health care delivery systems addressing a specific disorder or disease.

Second, the college has put into place a trauma center verification process, based on the guidelines document. The explicit goal, again, is to assess the system's effectiveness in limiting mortality and morbidity.

Third, the College also sponsors training in Advanced Trauma Life Support (ATLS) to ensure that frontline physicians, and other health care personnel, are provided with the structural guidelines for initial diagnosis and management of individuals sustaining major injuries. The College has provided ATLS training for over 80,000 physicians.

Fourth, through its Committee on Trauma, the American College of Surgeons coordinates the Major Trauma Outcome Study (MTOS). This important effort correlates severity of injury with patient outcome, thus providing a database for quality assurance. As principal investigator of the MTOS I can report that, through 1988, the study contains over 120,000 treated trauma cases and represents the largest contemporary injury database in existence.

These combined efforts may be responsible for the fact that it is extraordinarily rare for a trauma surgeon, or a qualified trauma center, to be sued for malpractice.

Trauma care, in short, is at the cutting edge of the thrust to base public policy decisions on effectiveness-of-care measures. Trauma care, Senator, and the American College of Surgeons' guidelines, represents everything you have so wisely espoused. Any legislation that alleges to seek to improve trauma care in this nation that is not based on utilization of the American College of Surgeons' standards contradicts your own views about treatment practice guidelines and is not worthy of your support.

I would also like to make a few comments about uncompensated trauma care. Here again I want to commend both Senator Cranston and Senator Hatch for offering proposals to address this critical problem that is threatening the viability of trauma centers across the nation. However, I have to stress neither proposal can possibly be enough. A few million dollars is not going to save our trauma centers. Losses per center typically run between $1 million and $3 million per year in actual costs. Nationwide it is estimated that trauma care represents $1.6 billion of the $7 billion in unsponsored care provided by acute care hospitals.

The problem is largely twofold: a disproportionate share of trauma patients are uninsured, and trauma care costs two to four times more than care for the average patient. Across the nation, approximately 30 percent of all trauma patients are uninsured. This, in turn, is largely due to the fact that trauma patients are disproportionately young, and/or are indigent, inner city, victims of intentional injury. Fully 65 percent of the Major Trauma Outcome Study (MTOS) sample is under age 35 with 30 percent of the sample falling between age 15 and 24. Fifty-four percent of this age group was injured in a motor-vehicle crash -- 20 percent in a motorcycle crash and 80 percent in other types of vehicles.

While in all but 10 states, motor-vehicle operators are required to carry liability insurance, only two "no-fault" states ensure that the driver's health bills are covered. Unless a driver is motivated to purchase health insurance he may not choose not to do so. Unfortunately, the young driver, often a low-wage worker whose employment does not subsidize health insurance coverage, or a college student faced with high educational costs, frequently chooses not to purchase coverage. This individual is at higher risk than others for serious injury and poses a higher risk for uncompensated care costs.

Trauma care also costs more: $10-12,000 on average for the initial admission compared with the average charge per acute hospital stay of approximately $4,000. Total costs for one year of injury-related care, including physician fees, and all rehabilitation services, averages $45,000 in 1988 dollars.

But despite this high initial cost, trauma care appears to be extremely cost-effective. If a seriously injured patient receives expert trauma care in time his or her chances of returning to full-time employment is at least 80-85 percent. The typical 20 year old trauma patient injured in a motor-vehicle accident who earns $20,000 on average over a 40 year employment history will pay back the $45,000 for his care in six years in federal, state, and local taxes alone. Over 40 years of employment he will contribute $2.6 million to the gross national product and a total of nearly $950,000 in tax contributions.

Alternatively, the National Head Injury Foundation reports that the lifetime maintenance costs for an 18 year old brain-injured patient, who did not get expert care in time, can be well over $7.5 million. Trauma centers and organized systems of trauma care can help prevent the epidemic of disabled, head-injured Americans, as well as other kinds of costly disabilities, as you heard so graphically today from Mr. and Mrs. Kyler.

I want to thank you, once again, Mr. Chairman for inviting me to testify today, and for your strong support of S. 15. I would like to submit for the hearing record the Summary and Findings section of a document entitled, "An American Crisis in Trauma Care Reimbursement." The paper provides information on the problem of injury in the U.S., trauma care and trauma systems of care, a profile of trauma patients based on the MTOS database, a review of reimbursement problems faced by trauma centers and discussion of potential solutions.

I would be glad to answer any questions that you may have.

American Trauma Society
1400 Mercantile Lane • Suite 188 • Landover, Maryland 20785 • (301) 925-8811

July 31, 1989

The Honorable Edward M. Kennedy
Chairman
Senate Labor and Human Resources Committee
527 Hart Senate Office Building
Washington, D.C. 20510

Dear Mr. Chairman:

Enclosed is a copy of the Summary and Findings section of a document entitled, "An American Crisis in Trauma Care Reimbursement."

As I noted in my testimony July 25, 1989 before the Labor and Human Resources Committee on S. 15, the "Emergency Medical Services and Trauma Care Improvement Act of 1989," I would like the enclosed material included as part of the July 25th hearing record. It summarizes information about the problem of injury in the United States, the potential that exists for effectively addressing it through the development of organized systems of trauma care, and the financial barriers that exist that additionally compromise the public's access to definitive care.

The paper presents some potential solutions to the financial crisis facing most trauma centers, but this effort is only meant to motivate serious discussion in public policy arenas that will lead to the development of a truly feasible alternative, or set of alternatives.

Thank you.

Sincerely,

Howard R. Champion, MD, FACS
Chairman, Legislative Committee
Member, Board of Directors

Enclosures
HRC:mm

AN AMERICAN CRISIS IN TRAUMA CARE REIMBURSEMENT

By

Howard R. Champion, M.D.
Marcia S. Mabee, Ph.D.

July, 1989

Authors' Note

It is not the intent of the authors to attempt to compile in one document the entire universe of knowledge about trauma (serious injury), trauma centers and regional systems of trauma care, or trauma care reimbursement. The document is, rather, an effort to acquaint policy-makers with the problem of injury in the United States, the resources that exist, or that potentially exist, to effectively treat seriously injured Americans, and the prevalence of financial barriers that, ultimately, compromise access to those life-saving resources.

About the Authors

Howard R. Champion, MD, FACS is chief of the Level I Trauma Service, MedSTAR, at the Washington Hospital Center, Washington, D.C. He is also Chairman of the Quality Assurance Committee, of the Committee on Trauma, American College of Surgeons and principal investigator for the college's Major Trauma Outcome Study, the world's largest database on trauma patient outcome. Dr. Champion is the current President of the Association for the Advancement of Automotive Medicine, Chairman of the Legislative Committee and a Member of the Board of Directors of the American Trauma Society, as well as an advisor to local, state, national, and international health officials and agencies on trauma systems design and implementation.

Marcia S. Mabee, PhD is senior health policy analyst and senior vice president with TBCO, a national healthcare consulting organization. She serves as an advisor to the American Trauma Society and is a former professional staff member of the U.S. House Select Committee on Children, Youth, and Families and Peter Bent Brigham Hospital, Boston, MA. She holds a Ph.D. in health policy from the Heller School, Brandeis University, and advanced degrees from Harvard University's School of Public Health and Smith College.

SUMMARY AND FINDINGS

PART I. COST ANALYSIS OF SELECTED TRAUMA CENTERS AND PUBLIC POLICY IMPLICATIONS

A) Unsponsored Acute Hospital Care is Increasing as Reimbursement Declines.

- Between 1980 and 1986 the unsponsored care that hospitals provided (charity care, plus bad debt, minus state and local tax appropriations) increased from $2.8 billion, three percent of total costs, to $6.96 billion, representing five percent of total costs.
- During the same time period, the number of uninsured individuals increased by 8.4 million -- from 28.4 million in 1979 to 36.8 million in 1986.
- Changes in health care financing in recent years, particularly implementation of prospective payment under the Medicare program and, in many states, under the Medicaid program plus increased discount contracting with prepaid plans and large self-insured employers has squeezed hospitals' operating margins. Hospitals are increasingly unable to shift costs to private payors to cover uncompensated costs generated by increased bad debt and inadequate reimbursement.

B) Trauma Care Represents an Estimated 24 percent of the Total Unsponsored Acute Hospital Care.

- Trauma care represents an estimated $1.69 billion of the $6.96 billion total unsponsored acute care, or 24 percent.
- This is primarily due to the fact that, while trauma patients only number 600,000-650,000 each year, a high proportion of them are uninsured and the cost of trauma care is two to four times higher than the cost of care for all patients.

C) Injury is the Nation's Leading Public Health Problem.

- Injury is the leading cause of death up to age 44 and is the fourth leading cause of death for all ages.
- Because it strikes the young disproportionately, injury is the leading cause of years of lost worklife--over 4 million years of productive work lost each year.

- In 1987, unintentional deaths and disabling injuries alone cost the nation $133.2 billion in direct and indirect costs, more than any other single disease category including cancer. Intentional injury, 30 percent of all injuries, may conservatively add $20 billion in costs bringing the total annual cost of injury to the nation to $153.2 billion.

- The National Academy of Sciences, in its 1985 report *Injury in America*, declared injury the nation's leading public health problem.

D) Trauma Requires An Organized Response: The Regional Trauma Care System.

- Trauma is a time-sensitive disease: people die within one to four hours without prompt intervention, or suffer permanent disability. It is frequently nocturnal, and involves a relatively small number of patients. For these reasons trauma care should be restrictive, confined to a few committed institutions, focused, and above all prompt.

- Regional systems of trauma care are organized to meet the needs of the seriously injured individual. Key features of the systems are: 1) pre-hospital care--triage (appropriate identification of the severely and urgently injured), treatment--application of advanced trauma life support techniques by pre-hospital personnel, transport--prompt transfer to a qualified trauma center; 2) trauma centers--designation of hospitals with a commitment to trauma care, according to guidelines developed by the American College of Surgeons; 3) rehabilitation--both acute inpatient care and outpatient/homecare to provide trauma patients with maximum opportunity to regain productive functioning.

- Many trauma experts believe the United States should have 350-400 strategically located Level I or II trauma centers each served by a regional system of trauma care. The nation currently has 250 qualified, designated trauma centers. Many of them are overly concentrated in large urban centers, only a few are served by regional systems, and together cover just 25 percent of the nation's population.

E) The Typical Trauma Patient is Young, Male, and Injured in a Motor-vehicle Crash.

- An analysis of over 80,000 trauma patients contained in the Major Trauma Outcome Study database indicates the largest number of serious injury occurs in the 15-24 age group. Fully 65 percent of the total sample of 80,544 trauma patients is under age 35.

- Seventy-one percent of the sample is male.

- Nearly 80 percent of the sample sustained blunt injuries, most in motor-vehicle crash. Twenty percent of the sample sustained intentional injuries, usually from a gunshot or stabbing incident. This is nearly twice as high as results from state-wide trauma registries, such as in Pennsylvania, where urban trauma centers do not dominate the data.

- Survival rates are over 90 percent for age groups under age 55. Those over age 65 are nearly twice as likely to die from similar injuries as those under age 65.

F) Trauma Centers Significantly Improve Survivability and Reduce Disability; 80 Percent Eventually Return to Work Full-time.

- A review of over 50 studies indicates 20-25,000 Americans that die from injury each year would probably be saved if trauma systems were in place across the nation ensuring prompt access to a qualified trauma center.

- In Washington, D.C., after implementation of a trauma system over a five year period, trauma deaths declined 50 percent. In San Diego County trauma deaths fell 55 percent in the first year of system implementation; 76 deaths were averted in its second year of operation.

- At least two studies show that with prompt, expert trauma care over 80 percent of the most seriously injured patients return to full-time productivity four years post-injury, with most regaining full activity status at one year post-injury. Most of the remaining 15-20 percent work, attend school, or housekeeping activities part-time.

G) While Highly Effective, Appropriate Trauma Care is Expensive.

- While the average charge per admission in a hospital providing acute care is $3,866 in 1987 dollars, the charge for a trauma admission ranges from $8,500 to $17,500 in a Level I or II trauma center hospital -- two to four times more.

- One prospective study of the total one year cost of care for trauma patients initially admitted to two Level I trauma center hospitals in Maryland found actual costs (as opposed to charges) averaged $32,039 in 1983 dollars -- significantly higher than expected.

H) Despite High Initial Costs, Overall, Appropriate Trauma Care Appears to be Highly Cost-Effective.

- The most typical trauma patient, a 20 year old male, has an 80 percent chance of returning to full-time work post-injury, and will probably have a 40 year work history. Assuming an average annual salary of $20,000 across his employment history, he will pay back in six years in federal, state, and local taxes the estimated $45,000 it cost (in 1988 dollars) for one year of acute and rehabilitative injury-related care.

- In addition, assuming a five percent inflation rate, this rehabilitated trauma patient will contribute a total of $899,712 in taxes over his work history, and $2.5 million in salary to the Gross National Product -- a nearly 3,000 percent rate of return on the original $45,000 investment.

I) Reimbursement for Trauma Care is Generally Inadequate Threatening the Financial Viability of Trauma Centers.

1) Mechanisms of Payment.

- Some studies have shown that the DRG prospective payment system used by the Medicare program, and in 14 states by the Medicaid program, as well as in a few states by all payors, covers only 50 percent of the actual cost of acute trauma care.

- Medicaid eligibility standards prevent coverage for most uninsured trauma patients, who tend to be young, male, and able-bodied workers or students prior to injury.

- Private insurance and worker's compensation generally reimburse adequately for acute trauma care, but a disproportionate number of trauma patients are uninsured primarily because they are young, relatively low-wage earners, or over age 18, in school, and no longer covered by their parents' health insurance policies.

2) Inadequacy of Reimbursement.

- Many designated trauma centers are losing between $1 and $3 million annually in actual costs.

- One state-wide study of trauma care indicates Florida hospitals incurred losses in uncompensated trauma care costs totalling $41 million during 1986.

- Nationally, it is estimated that hospitals provide $1.69 billion in unsponsored trauma care, or 24 percent of all unsponsored care.

J) Poor Reimbursement for Trauma Care Threatens the Public's Access to Definitive Care Causing Increased Death and Disability.

- In the past three years at least 20 designated trauma centers have withdrawn from regional trauma systems, or have shut down operations altogether due to financial losses.
- The preventable death toll, already 20-25,000 Americans each year, will undoubtedly rise, as will the number of seriously injured individuals who will become permanently disablec at great societal cost.

PART II. ENSURING ACCESS TO DEFINITIVE CARE FOR SERIOUSLY INJURED AMERICANS: A PRELIMINARY DISCUSSION OF PROPOSED SOLUTIONS

A) Development of Regional Systems of Trauma Care.

- Organize regional systems of trauma care to save health care dollars by making cost-effective use of expensive health care resources. Regional trauma care systems also achieve significant national savings by dramatically lowering death and disability rates from injury.
- Plan regional systems of trauma care to permit rationing of indigent care which threatens the financial viability of many urban trauma centers.

B) Expansion of Medicaid.

- Develop a Medicaid "catastrophic" plan for uninsured trauma patients that would pay for 80 percent of actual cost for both acute care and rehabilitative care.
- Since time is of the essence in the care of seriously injured individuals, a presumption of eligibility for Medicaid coverage would be made for all trauma patients not evidencing other forms of health insurance coverage. Only patients with ICD-9 codes within the range of 800-959, excluding certain ranges, would be eligible for coverage, and only traum center hospitals designated according to the American College of Surgeons standards would be eligible for reimbursement under the acute care benefits.

C) Adjustment of DRG-based Reimbursement for Trauma.

- Adjust the DRG method of payment to account for variations in the treatment needs of trauma patients.

- DRG's do not adequately account for the cost of caring for a multiply-injured trauma patient, or for the co-morbidity and complications frequently seen in elderly trauma patients. In addition, the reliance of the DRG methodology on averaging does not adequately reflect resource use in the frequently strongly bi-modal trauma DRGs.

D) Development of a Trauma Trust Fund.

- A federal/state/private sector trust fund could be developed to reimburse qualified trauma centers for documented uncompensated trauma care.

- Only costs incurred by bonified trauma patients (ICD-9 codes) treated in trauma centers designated according to the American College of Surgeons standards would be reimbursable.

- The fund would need to accumulate a minimum of $1 billion in assets to adequately address uncompensated trauma care estimated to be between $1-2 billion. The federal portion could be matched by state funds on a $1 for $1 basis.

- Revenues for the federal portion ($500 million) might come from a tax on alcoholic beverages. A recent analysis indicates that alcohol is currently taxed far below the societa cost imposed by drunk driving and other behaviors. Revenues for the state portion might come from surcharges on driver/motor-vehicle registration and traffic violations. Life and health insurance companies might reduce the state portion of the match by making a "premium contribution" to the trauma trust fund. Life insurance companies might find it in their interest to support trauma centers that reduce preventable death an disability, thereby diminishing death benefit demands.

E) An Earmark for Trauma Care in Any Proposals Addressing the Uninsured

- Proposals that seek to provide health care benefits for the uninsured should include appropriate trauma care and accompanying rehabilitative care as part of any benefit package.

Senator SIMON. Let me direct this question to all three of you. This is an unusual piece of legislation, because, by inference, we make part of the law something that is not part of the law. In other words, we take the standards that have been espoused by the American College of Surgeons.

You are all familiar with those standards, I assume. As you look at them—and we will have to, as a committee, frankly, before we pass this legislation, we are going to have to look at those standards to see whether, in fact, by enacting those standards, this is realistic.

Dr. Franaszek, you are familiar with DeKalb, IL—it is a city about 50 miles from Chicago, a small community. Dr. Champion and Dr. Wolferth, you can think of similar communities where you live. Are the standards that are being suggested here, are they standards that a good, quality small community hospital can live with? I address that to all three of you.

Dr. WOLFERTH. Yes, sir. Again, the American College of Surgeons' standards or the optimum resource document addresses three levels of care, three levels of hospital commitment. It is possible that an institution in that area might not reach so-called Level I designation. It was never the intent of the college that would make the critical difference in care of whether a patient survived or not. I am quite certain that one or more hospitals in that community, with the proper commitment of its trustees and its medical staff, could reach Level II standards, which do not require residents, do not require any of the things that a university hospital would have.

Most patients who will need trauma care in the United States will probably wind up in a Level II hospital. They may start out in a Level III or even a rural hospital. They will get to the hospital with the optimal resources as promptly as possible, and a good example is you have 4 hours from the time of your head injury to receive definitive neurosurgical care.

That does not necessarily mean you need a neurosurgeon in a hospital. You need a doctor, either an emergency physician or a surgeon who takes calls, who recognizes that patient has—and whatever time the clock started ticking, if they have a neurosurgeon there, they get it done there. If they do not, they get to the hospital that has a neurosurgeon within 4 hours. There is nobody in the United States that cannot get to a hospital with those facilities, but it has to be part of the network.

Senator SIMON. Dr. Franaszek.

Dr. FRANASZEK. A couple of things to say. I think our document, much like the American College of Surgeons' document, does make some distinctions between what is possible in the urban environment and what is possible in the rural environment.

I think the question you raise, though, exemplifies what we are concerned with, and that it is the system that is important, if not every patient can be looked after, in however an excellent facility in DeKalb, if the system is functioning properly, then the few that need, let us say, a higher level of care, can be looked after in that system by a transfer to Loyola, closer to the city of Chicago or Northwestern, or one of the major trauma centers closer to the metropolis.

Senator SIMON. Dr. Champion.

Dr. CHAMPION. Senator, I would like to give a slightly different perspective on the American College of Surgeons' standards for this neglected disease of modern society. It is neglected by hospitals, it is neglected by physicians, it is neglected by public health personnel, and there is very little on the Federal initiative in health care in general with regard to this disease.

The standards stipulate the minimum commitment that a hospital must have to providing care for these patients that are essentially neglected. They are nocturnal and they do not pay very well.

The alternative is that it allows the hospitals to abrogate any responsibility to providing care. Now, the difference with these diseases that we are—why we are trying to push for trauma legislation, is if you want heart surgery, which has a mortality—(a) you receive it electively, and (b) it has a mortality of about 1 percent of the present time, in elective circumstances. You can choose to go to the hospital that has a heart surgeon that has done the operation before and, hopefully, you will be able to pick a surgeon that has had a few patients that have survived recently.

If you are going to be injured in an automobile accident, you do not plan that and you are not in a position to say, gee, this hospital could be better, or take the time to choose which hospital. The hospital says I am a trauma center, the system chose to take you there, and any bill that we put forward, without explicit standards in it, is going to continue to abrogate our responsibility to taking our role in that decision and providing that care for you. Serendipity should not be able to dictate survival, which is what is happening at the moment.

Senator SIMON. What kind of work will be required for the smaller hospitals? Frankly, like in Chicago, I do not think—I assume there will be very little required, if anything, to meet the standards. But for the rural hospitals you are familiar with, what kind of additional work or expense will be required to meet the standards, ordinarily?

Dr. CHAMPION. Can I go first this time, sir?

Senator SIMON. Yes.

Dr. CHAMPION. Because I have been involved an awful lot with many individuals, looking at the rural issue. In rural Maryland, which is somewhat different from rural Wyoming or rural Montana, and in those areas we have focused particularly on trying to optimize the care available with existing resources, again, asking an institution to make a commitment to care, saying that if somebody like this comes into the hospital, then there is a plan, and the resources are mobilized and a plan fashioned, and it is not much more than that, other than making sure that people are trained a little bit in things, and it is very possible to make substantial improvements in care by a minor investment and say here is the plan, here is the physician, he is adequately trained, he has spent a whole weekend at the AFLS course, he is certified to resuscitate his patients, we should be able to receive them, because there is nobody else for 50 miles away and we are going to be able to do better than we did last week. That is the focus in the rural component of the standards.

Senator SIMON. Do you want to add anything to that?

Dr. FRANASZEK. Just a brief answer, in terms of emergency medicine. There is a manpower shortage within my specialty, particularly in the rural areas, since we have grown out of the city, so to speak, into the rural area, and so there is an educational effort that needs to be undertaken with respect to bringing emergency physicians that are there up to speed and then sending trained, qualified emergency physicians into the rural hospitals.

There is also an effort that needs to be undertaken with respect to the training of pre-hospital care providers, emergency medical technicians and paramedics. The level of training in the rural area, I would venture to say, probably should be greater than that in the metropolitan area, since they assume care for patients for a longer period of time, probably in more adverse circumstances.

So, some work does need to be done in terms of emergency medicine manpower and also upgrading and educating pre-hospital care providers.

Senator SIMON. In that connection, if I can address to you both and to Dr. Wolferth, because, Dr. Wolferth, in your statement you say the standards do not address primarily EMS. By implication, when you say "primarily," the standards to address these pre-hospital standards. Am I reading something into your statement, or——

Dr. WOLFERTH. No, sir.

Senator SIMON. Both of you were referring to this.

Dr. WOLFERTH. I think that, actually, the American College of Emergency Physicians and the American College of Surgeons are very close on what constitutes legitimate trauma care. We do not have a big argument between us about that.

It might interest you to know, sir, that there is one other element that none of us have spoken of. The American College of Surgeons has recently done an internal review, and currently there are about 30 States that do not have existing EMS legislation or trauma center designation in the United States, and second, that of the Level I trauma centers that exist in the United States, about 70 percent of those have gone through some peer review process. So, there is about 70 percent of those out there which may be very good trauma centers, but nobody has ever been in to see how they do. That figure drops to 50 percent with Level II trauma centers.

So, inherent with some standard—and there is only one standard for trauma care, it is no different anywhere in the United States, it is no different, actually, in West Germany or any other country. There is basically one standard, it is availability of the proper people at the proper time.

But the important thing is the hospitals have to be measured in some way.

Second, inherent in this bill, which we think is very vital, is a data collection—how well are they doing and what kind of quality assurance. It will only be with this information that you, our leaders, our legislative leaders, will be assured that there is an effective change in patient outcome.

Finally, I think it is important for us to remember that in 1 year in the United States, half as many young Americans are killed needlessly as there were who died in Vietnam in 9 years.

Senator SIMON. That is a pretty powerful way to close the testimony.

We thank all three of you very, very much for your testimony and for your leadership.

Our final panel will be made of Ralph Muller, president of the University of Chicago Hospitals, who is also representing the American Hospital Association here, and Dr. Mark Richards, Secretary of Health for the Pennsylvania Department of Health, representing the Association of State and Territorial Health Officers.

We are very happy to have both of you here. Dr. Muller, let me call on you first, since I mentioned your name first.

STATEMENT OF DR. RALPH W. MULLER, PRESIDENT, UNIVERSITY OF CHICAGO HOSPITALS, CHICAGO, IL, ON BEHALF OF THE AMERICAN HOSPITAL ASSOCIATION

Dr. MULLER. Thank you, Mr. Chairman.

I am Ralph Muller, president of the University of Chicago Hospitals, and I am pleased to have this opportunity to be here today, on behalf of the American Hospital Association's (AHA) nearly 5,500 members, including more than 1,000 trauma centers, and I am here to discuss the trauma care initiatives currently under consideration by this committee.

The AHA commends both Senator Cranston and Senator Hatch, as well as you, Senator Simon, for the sponsorship of the measures now before this committee.

In addition, the AHA is pleased that these efforts have focused on one of this country's most important health care problems. The AHA looks forward to assisting you and the members of this committee in further development of these very necessary and timely bills.

As president of a former Level I trauma center, I know how vital quality trauma care can be to the lives of a community, but also how devastating it can be to the care-giving capacity and finances of a hospital. With the committee's indulgence, I would like to share a bit of my recent experience, because it illustrates some of the profound issues raised by the bills under consideration here today.

My own hospital, which is a major teaching institution located on the south side of the city of Chicago, participated in the city of Chicago's trauma network for 2 years, from May 1986 to May 1988. We were honored to be one of the original nine centers designated at the programs' inception to provide rapid, sophisticated emergency care to the most critically injured and ill patients, those needing Level I trauma care, as defined in the trauma guidelines developed by the American College of Surgeons and the American College of Emergency Physicians. We were the busiest Level I trauma center in Chicago in 1987 and 1988.

In December 1987, we undertook an extensive and painful review of the consequences of our trauma care activities. There was no question that, due to the considerable resources and skills available in our facilities, we could successfully care for individuals needing Level I trauma care, and we are mindful for our community's need for this vital resource.

In addition, designation as a Level I trauma center obviously was a source of considerable prestige for us. But we were also deeply concerned that our provision of such a high volume of Level I service would negatively affect our ability to provide other vital programs that are also of significant value to our community. Regrettably, we reached the difficult decision that we would have to drop out of our city's trauma network, and we did not renew our contract with the city upon its expiration in May 1988.

We discovered in our review of trauma services that more than 40 percent of the Level I patients seen at our facilities had Medicaid coverage, and another 25 percent had no source of insurance coverage at all upon admission to our emergency room. Therefore, for 65 percent of our Level I patients, we received significantly less than our costs and we lost over $2 million a year. These enormous losses placed a considerable financial strain on the hospitals and threatened our ability to continue other long-standing, vital community programs and to care for the other indigent in our community.

Our hospitals have long been a leader in offering programs which provide for the health of our community. We operate in more than 100 outpatient clinics and provide comprehensive medical services to more than 1,000 patients a day.

I may just add here that, for those of us who are familiar with the recent difficulties of Cook County Hospital in our city, the fact that there is not a good outpatient network in the city is one of the great failings of our system and we are one of the anchors of the community's services in our part of town.

We anchor a regional perinatal network which provides care to high-risk pregnant women. I might say that, in the last 8 months, the number of pregnant women coming in that we had not ever seen before in our system has more than doubled, largely in relationship to drug use, but we are providing enormous resources to those women who are coming to us for the first time.

We have supported, along with the CBS station in the city of Chicago, an enormous city-wide infant mortality reduction campaign. We provide neonatal and pediatric intensive care units. We provide one of the two burn units in the whole metropolitan area. We run one of the two helicopter services in the Chicago metropolitan area, and we provide $36 million of uncompensated care a year.

I might say that there is $25 million in this whole bill for the whole Nation for uncompensated care. We provide $36 million in our hospital alone.

We are the single largest type of provider of Medicaid care in the entire State of Illinois, and these services are of significant value to a broad segment of people in our community.

We decided that focusing on maintaining these programs and to continue operating comprehensive adult and pediatric emergency rooms, which are open to all patients requiring this level care, but we had to decide to forego participation as a Level I trauma center.

With the closing of our trauma center, a large part of the city's high-trauma South Side was without nearby trauma coverage, and there was only one remaining trauma center on that side of the city.

The experience of my institution in providing trauma care is not atypical of those of other hospitals throughout the country. Any Federal proposal to strengthen trauma systems must take careful account of these financial factors, and, therefore, I urge that Federal legislation such as we are considering here today make available much more financial support for trauma centers that are experiencing severe financial losses.

I think it is very telling that around the country, in the cities, the trauma centers are falling apart and at a time that we are considering the building of a trauma system, and I certainly agree with the testimony of the people who preceded me that we need a major trauma system in this country. We must also provide adequate funding.

We are encouraged by the new congressional interest in trauma systems, as evidenced by the introduction S. 15 and S. 1274. The AHA endorses the objectives of both bills. I think it is very important that these bills also include flexibility for the States to adapt—it is very important that we have trauma centers, not that we have them fall apart. We think it is important, as I am illustrating in my Chicago experience, that a system, once created, must remain stable and operational and there must be access for centers to provide this care.

The AHA and my hospital looks forward to working with the sponsors of this bill and the members of this committee to strengthen efforts so that there can be valuable trauma services available and be available to all Americans. Costs in terms of lives lost is too great for the trauma care problem to be ignored any longer.

Thank you, Senator Simon.

[The prepared statement of Dr. Muller follows:]

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PREPARED STATEMENT OF RALPH W. MULLER, M.D.

SUMMARY

Trauma care is a crucial element of the U.S. health care system. Because outcomes are highly dependent on both the promptness and the expertise of care, trauma care is most effective when provided by a regionally coordinated system with highly qualified and experienced providers, state-of-the-art communications, a strong emergency response network, and a system able to provide the full range of trauma-related services. But given the multitude of programs now in place, the variety of state needs and resources, and the high cost of care, any federal blueprint for a trauma system design must be carefully drawn. There are three important characteristics of effective trauma care systems:

- Flexibility: States should have the flexibility in developing standards and criteria for trauma care that would enable them to design systems tailored to meet the needs of various locations.

- Stability: Once operational, the system must remain viable despite any increases in the numbers and types of patients receiving trauma care.

- Assured Access: An adequate level of funding must be provided to cover the enormous costs involved in start-up and operation of such systems. To the extent that operational losses must be borne, all willing and qualified providers must be permitted to participate so that the financial burden can be distributed as broadly as possible.

We are encouraged by the renewed congressional interest in trauma systems as evidenced by Senator Cranston's bill, the Emergency Medical Services and Trauma Care Improvement Act of 1989 (S.15), and Senator Hatch's proposal to improve the trauma care system in S.1274. The AHA commends both Senators for their diligent efforts to address one of this country's most important health care problems. However, AHA believes each of the proposals would require some additional review to meet the above three criteria. In particular, AHA is concerned that Senator Cranston's bill, by requiring states to adopt guidelines for the designation of trauma care services that are "at least as stringent" as those developed by the American College of Surgeons and the American College of Emergency Physicians, could reduce state flexibility and jeopardize the stability of the state system. In addition, proposed funding levels for uncompensated care are inadequate to develop and maintain trauma systems in all 50 states.

INTRODUCTION

Mr. Chairman and Members of the Committee, I am Ralph W. Muller, president of the University of Chicago Hospitals. I am pleased to have the opportunity to be here today on behalf of the American Hospital Association's (AHA) nearly 5,500 institutional members, including 1,042 trauma care centers, to discuss the trauma care initiatives currently under consideration by this committee. AHA commends both Senator Cranston and Senator Hatch, the primary sponsors of the measures now before this committee, for their diligent efforts to address one of this country's most important health care problems. AHA looks forward to assisting them and the members of this committee in further development of these very necessary and timely bills.

As president of a former Level I trauma center, I know how vital quality trauma care can be to the life of a community, but also how devastating it can be to the financial life of a hospital. With the committee's indulgence, I would like to share a bit of my recent experience because it illustrates some of the profound issues raised by the bills under consideration here.

My own facility, a major teaching institution located on the south side of the city of Chicago, participated in the city of Chicago's trauma network for two years, from May 1986 to May 1988. We were honored to be one of the original nine centers designated at the program's inception to provide rapid, sophisticated emergency care to the most critically injured and ill patients, those needing Level I care as defined in the trauma guidelines developed by the American College of Surgeons (ACS) and the American College of Emergency Physicians (ACEP). We treated an average of 35 Level I trauma cases per month in 1987, and 40 a month in 1988, making us the leading Level I center in Chicago each year.

In December 1987, the University of Chicago Hospitals undertook an extensive and painful review of the consequences of our trauma care activities. There was no question that due to the considerable resources and skills available in our facilities we could successfully care for individuals needing Level I care. We were mindful of our community's need for this vital resource. In addition, designation as a Level I trauma center obviously was a source of considerable prestige for us. But we were deeply concerned that our provision of such a high volume of Level I services would negatively affect our ability to provide other vital programs that are also of significant value to our community. Regrettably, we reached the difficult decision that we would have to drop out of our city's trauma network, and we did not renew our contract with the city upon its expiration in May 1988.

During our review of trauma services, we discovered that more than 40 percent of the Level I patients seen at our facilities had Medicaid coverage, and another 25 percent had no source of insurance coverage at all upon admission to our emergency room. The Hospitals, thus, received significantly less than

costs for over 65 percent of Level I patients. Such a large volume of uninsured and underinsured Level I patients resulted in losses from trauma care alone that approached $2 million during FY 1988. These enormous losses placed a considerable financial strain on the Hospitals and threatened our ability to continue other long-standing, vital community programs and to care for the other indigent in our community.

The Hospitals have always been a leader in offering programs which provide for the health of our community. We operate more than 100 outpatient clinics and provide comprehensive medical services to more than 1,100 patients per day. We also anchor a regional perinatal network which provides care for high-risk pregnant women, support a city-wide infant mortality reduction campaign, provide neonatal and pediatric intensive care services and burn care as well as last year providing some $36 million in uncompensated care. Further, we are the single largest private provider of Medicaid care in the entire state of Illinois. These services are of significant value to a broad segment of people in our community. We decided to focus on maintaining these programs and to continue operating comprehensive adult and pediatric emergency rooms which are open to all patients requiring this level of care, but to forgo participation as a Level I trauma center.

I would point out that our experiences in providing trauma care are not atypical of those of other hospitals throughout the country. A description of our situation highlights not only the enormous need for comprehensive systems of trauma care in every community but also some of the issues that must be addressed if we are to have workable, effective, and enduring systems.

THE NEED FOR QUALITY TRAUMA CARE

More than 60 million Americans are injured each year and, while many of these injuries are not immediately life-threatening and do not present risk of permanent disability to the individuals who have them, in many cases the stakes are much higher.

- o Every year, injuries account for temporary disability in 9 million Americans and permanent disability in 340,000 Americans.
- o One American suffers a disabling injury every four seconds.
- o One American dies from an injury every six minutes.

Trauma, the medical term for injury, is the fourth leading cause of death for Americans today. It is the leading cause of death in the first four decades of life and up to age 34, it kills more people than all other diseases combined.

Speed is a crucial variable affecting the outcome of trauma care, particularly for certain types of injury. Death from trauma has a trimodal distribution. The first deaths occur within seconds or minutes of injury and are usually due to lacerations of the brain, brain stem, upper spinal cord, heart, aorta or other large blood vessels. Although death is certain in most such cases, some deaths can be avoided if rapid transport to a trauma center is possible. The second period of death occurs within the first two hours after injury and is

usually due to intracerebral, subdural, and epidural hematomas, hemopneumothorax, ruptured spleen, lacerations of the liver, fractured femur, or multiple injuries associated with significant blood loss. These patients, whose numbers are significant, can usually be saved if their conditions are continually monitored and immediate care is provided. The third group of deaths occurs days or weeks after injury and is most often due to sepsis and multiple organ failure. These deaths are also preventable when patients receive timely and continued care.

Because trauma is a surgical disease, rapid response in providing care to the trauma patient is not enough. If patients are to have the best chance of recovery, they must have the best treatment and continued care available. Optimal care of the trauma patient requires skilled services from a variety of professionals trained to address the needs of such patients. And the provision of such high-quality services through a trauma care network has been shown to save lives in numerous studies of trauma care:

- In Orange County, CA, the proportion of potentially preventable trauma deaths dropped from 34 percent to 15 percent following implementation of a trauma system. (Most of the remaining deaths occurred in patients who were treated in facilities not specifically equipped to serve trauma cases.)

- In San Diego, the trauma death rate fell by 55 percent after the implementation of a trauma system.

- In Washington, DC, a 50 percent reduction in trauma deaths over five years has been attributed to the development of a trauma system.

Thus, a system of trauma care that organizes the provision of high-quality services is essential. Because the speed of care can also be critical, however, a vital design factor in any trauma care network is assuring that care is both close and good.

COSTS OF PROVIDING TRAUMA CARE

The provision of high-quality trauma services, however, involves substantial cost. Start-up costs for a trauma center can reach $3 million, while annual maintenance can total more than $5 million. Hospitals spend an average of $750,000 on salaries to ensure 24-hour coverage by a neurosurgeon or an anesthesiologist. Although some hospitals can make money from the provision of trauma services, for most of them providing of trauma services is a losing proposition. The latest data indicate that average charges associated with trauma patients were:

- $47,274 for head injuries;
- $50,318 for spinal injuries;
- $19,150 for injuries to extremities;
- $25,643 for abdominal injuries; and
- $15,256 for other types of injuries.

It is not uncommon for one-third or more of the patients needing such care to be uninsured. Many of the remainder may be covered by Medicaid, but Medicaid reimbursements typically do not cover costs, particularly in the case of long-stay patients requiring intensive care. As a result, hospital trauma centers frequently experience significant operating losses--most commonly in the range of $2-$3 million per year.

Provision of trauma services can place a significant financial strain on a hospital and threatens the hospital's ability to continue smooth and effective provision of other vital community services. This situation has forced many hospitals like my own to drop out of their respective trauma networks to preserve their abilities to continue service to their communities.

- In Chicago, where hospitals in the trauma network lost a total of $15 million during 1988, two of the ten facilities (including my own) dropped out of the city's trauma system in May 1988. With the closing of our trauma centers, a large part of the city's high-trauma south side was without trauma coverage. The one remaining trauma center on the south-side of the city, Michael Reese Hospital and Medical Center, experienced a significant increase in requests for trauma care as a direct result of our closure, with resulting overcrowding in its facilities and substantial delays in treatment. This situation, coupled with the not-for-profit hospital's loss on trauma care alone, $600,000, has led Reese to also consider dropping out of the network.

- Los Angeles County is experiencing many of the same problems seen in Chicago. During the past four years, 10 of Los Angeles County's

original 24 trauma centers designated in 1983 have left the trauma network because of the financial and operational drain on their facilities, leaving large stretches of this densely populated county without high-tech trauma care. This shrinkage of the network increased the pressures on the remaining hospitals in the system. Despite the stopgap $7.2 million appropriated by the L. A. Board of Supervisors to shore up the network, centers in the network lost an estimated $25 million during 1988. Since January 1989, two more trauma centers have been forced to close their doors. A third facility is anticipating closure in August and this can only be expected to increase the pressure on the remaining centers, ultimately leading to the collapse of the city's trauma network.

Any federal proposal to strengthen trauma systems must take careful account of these financial factors. To adequately address the problem, federal legislation would need to make some provisions for ensuring financial support for trauma centers experiencing severe financial losses because of care to the medically indigent. At the very least, it is critical that such legislation not exacerbate the problem by restricting the number of otherwise qualified providers who will be permitted to participate.

CURRENT CONGRESSIONAL INITIATIVES

Trauma care is a crucial element of the U.S. health care system. Because outcomes are highly dependent on both the promptness and the expertise of care, trauma care is most effective when provided by a regionally coordinated

system with highly qualified and experienced providers, state-of-the-art communications, a strong emergency response network, and a system able to provide the full range of surgical and rehabilitative care, education and training, and prevention services. But given the multitude of state trauma programs in place now, the wide variety of state needs and resources, and the high cost of trauma care, any federal blueprint for designing such a network must be very carefully drawn. There are three important characteristics of effective trauma care systems:

- Flexibility: States should have the flexibility in developing standards and criteria for trauma care that would enable them to design systems tailored to meet the differing needs of various locations.

- Stability: Once operational, the system must remain viable despite any increases in the numbers and types of patients receiving trauma care.

- Assured Access: An adequate level of funding must be provided to cover the enormous costs involved in start-up and operation of such systems. To the extent that operational losses must be borne, all willing and qualified providers must be permitted to participate so that the financial burden can be distributed as broadly as possible.

We are encouraged by the renewed congressional interest in trauma systems as evidenced by the introduction of S.15, the Emergency Medical Services and

Trauma Care Improvement Act of 1989, by Senator Cranston and Title V - Improving the Trauma Care System of S.1274, by Senator Hatch. AHA endorses the objectives of both bills to reduce the mortality and morbidity of trauma victims through a coordinated system of trauma care. But the proposals require some additional review to meet the above criteria, particularly the legislation introduced by Senator Cranston

The Proposals

The initiatives currently under consideration by the committee are designed to provide incentives for states and localities to develop well-coordinated, regionalized trauma systems that would enable severely injured individuals to receive highly specialized trauma care as rapidly as possible. Both bills would:

- Establish a federal clearinghouse for information on emergency medical services and trauma care;
- Authorize a program of grants to states for the development of trauma care systems; and
- Recognize the need for financial assistance to cover the costs of uncompensated care associated with the provision of trauma care.

However, the bills take slightly different approaches to the development of trauma networks, particularly on the critical issue of state flexibility in establishing trauma care standards.

- S.15, sponsored by Senator Cranston, would require that state standards for trauma care be at least as stringent as the applicable guidelines developed by the ACS and by the ACEP. States also would be required to designate the number and type of trauma centers necessary to provide needed, high-quality trauma care in their various regions. At present, the guidelines developed by the ACS and the ACEP specify a particular methodology to be used in planning for trauma centers. Based on estimates of severe injuries in the population (1,000 severe injuries annually per 1 million population), a minimum annual performance level of 50 cases per surgeon to guarantee competency, and projections of the number of surgeons per institution, Level I centers must treat 600 to 1,000 patients annually; Level II centers, 350 to 600 patients. States can seek waivers with regard to the standards subject to the approval of the Secretary of the Department of Health and Human Services (HHS).

- S.1274 (Title V), sponsored by Senator Hatch, would require only that states submit a plan for the allocation and payment of grant funds, including a description of the programs and activities to be supported and of the general emergency medical service system and trauma care components in both rural and urban areas that would receive grant assistance.

Total funding under each of the bills would be about the same, but the source and allocation of funds would differ significantly.

- Appropriations authorized by Senator Cranston's bill would total $75 million for each of the fiscal years 1990, 1991, and 1992.

Approximately 95 percent of funds would be used to make grants to states for developing trauma care systems, and at least 35 percent of the total would have to be used for covering some of the costs of uncompensated trauma care provided to high cost, indigent patients. The bill also would require a state match of any federal funds received in the ratio of one state dollar for every three federal dollars beginning in FY 1991.

- S.1274 (Title V), sponsored by Senator Hatch, would authorize $100 million for each of the fiscal years 1990 through 1992 for making grants to states to develop trauma care systems. No more than 25 percent of these funds could be used to reimburse providers for the cost of uncompensated trauma care. In addition, the bill would provide $8 million for each of the fiscal years 1990 to 1992 for the improvement of rural emergency services and graduated amounts for fiscal years 1990 to 1992 for development and initial operation of the federal clearinghouse. The bill would not require a state match of federal dollars received, but it would require state maintenance of effort with regard to expenditures for trauma care services.

ISSUES AND CONCERNS

The two bills under consideration here, and that of Senator Hatch (Title V of S.1274) in particular, show strong support for the development of a viable trauma care system. They represent good first steps in designing such a system. But we have some concerns about whether the bills, and that of Senator Cranston (S.15) in particular, will ensure development of a <u>flexible</u>,

stable, and accessible system. AHA, therefore, has several suggestions for strengthening both proposals.

Senator Cranston's Proposal (S.15)

Although AHA strongly shares Senator Cranston's view regarding the need to bolster development of a strong trauma care system, the Association has three concerns about the bill.

Flexibility. First, the legislation would reduce a state's flexibility to design a trauma system tailored to meet the specific needs of its various regions. As written, it would require states to adopt guidelines for the designation of trauma care services including triage, transfer, and transportation policies that are "at least as stringent" as those developed by the ACS and the ACEP. The meaning of this provision is not clear. A literal reading would suggest that a state could adopt guidelines that were radically different from those suggested by the ACS and the ACEP, as long as these alternatives rivaled those standards in stringency. If the intent of the provision is to accord statutory standing to these guidelines, however, AHA would urge the committee to reconsider the provision. Such a requirement would effectively eliminate a state's ability to adopt standards that are tailored to meet its own circumstances, even though most states to date have seen the need to adapt these guidelines when designing a trauma care network. The majority of systems in operation today use these guidelines as a starting point, not as a rigid standard. States make whatever modifications they deem appropriate to tailor the guidelines to specific needs of their various regions, so that the resources in their particular state can be used

most effectively. The ACS and ACEP guidelines, developed by a very knowledgeable private-sector group but without benefit of public hearings, should not be given the force of law and should not be permitted to constrain future state efforts to fashion a trauma care network that meets their needs, and certainly should not be permitted to overrule past state efforts.

The bill also does not recognize that ACS and ACEP may change their guidelines. In fact, the two organizations periodically review and modify their respective standards. Consequently, under Senator Cranston's bill, states would be forced to change their standards for trauma care services whenever ACS or ACEP chose to change their guidelines. The difficulties in modifying state standards and adapting their respective systems quickly are enormous. AHA understands that the standards are now currently under review and are likely to change in the near future. At the present time, no one knows just what those standards will look like, and it would not be prudent to develop trauma care systems based on standards that are likely to quickly become obsolete. The bill does recognize the importance of flexibility with the establishment of a waiver process. Through this provision states, subject to the approval of the Secretary of HHS, could seek to waive certain standards with assurances that the quality of care provided is not impaired. The waiver process is a step in the right direction, but it provides only a modicum of flexibility at the end of the development process of a state's trauma system rather than at the beginning. It would be preferrable to grant states flexibility as they begin their development of such systems.

Stability. Assuming that the reference to the guidelines developed by the ACS and the ACEP is meant to give statutory standing to them, the legislation

also could limit the state's ability to use its full capacity of available resources to address identified trauma needs. States would be required, if they wish to obtain federal money to improve their trauma systems, to designate trauma regions and identify the number and type of centers needed to meet regional needs. In other words, states would be required to limit the number of facilities designated as trauma care units and to use the ACS/ACEP methodology and performance quotas in setting that number and designating participating centers.

Provider participation in the trauma system is voluntary, and ACS/ACEP guidelines recognize institutional and personal commitment as the "most significant ingredient for optimal care of the trauma patient." For hospitals, such a commitment means providing capable personnel who are immediately available, as well as using sophisticated equipment and services that frequently are expensive to purchase and maintain. It also means that hospitals must establish a priority of access to sophisticated laboratory and radiologic facilities as well as to the operating suites and intensive care unit. If a hospital is willing to devote the appropriate personnel, expensive equipment, and administrative time to function as a trauma center, it should not be thwarted in its efforts to improve access and provide a valuable and needed service to its community. States must be free to use their full range of capabilities to meet their trauma care needs. Furthermore, every hospital that can meet acceptable standards and wants to be designated as a center should be allowed to be so designated.

Assuring high quality care obviously must be a paramount objective of any trauma care system. Although many factors must be considered in assessing

quality, AHA recognizes that one important potential quality control is to make sure that trauma care centers provide a sufficient number of procedures to maintain a high level of expertise. Moreover, it is also important that participating hospitals have a sufficient volume of inpatient services to permit specialists to maintain a high level of expertise. But at this point, there is no clear medical consensus on the number of procedures that must be performed to ensure competence. In the absence of definitive medical criteria, the temptation arises to substitute political criteria, and therefore, to raise artificially the number of required procedures. To the extent that federal legislation requires states to limit the number of centers or to adopt artificially high volume standards, it would fuel this use of political criteria and needlessly limit the number of participating institutions. Under some circumstances, the unintended impact of such a scenario could be to reduce quality of care, for example, by promoting such high volumes of care among the few designated providers that trauma services become overcrowded or stretched beyond capacity.

Access to Care. A third related problem concerns the bill's impact on access to care. As noted previously, trauma care is expensive to provide and is likely to involve service to a high volume of uninsured and underinsured patients. In areas where trauma needs are high and health insurance availability is inadequate, operation of a trauma center constitutes a devastating drain on hospital resources. In such areas, the fewer the number of trauma centers, the greater the burden any single provider must bear. Once the number of designated centers drops too far, the burden becomes too great, and individual providers will begin to withdraw, thereby increasing the burden

on the others in the system and setting in motion a dangerous chain reaction. Access for both the insured and uninsured to trauma services would then be threatened.

In addition to permitting maximum participation of qualified providers, any legislation also must come to terms with the broader financing issue. Although Senator Cranston's bill recognizes that the development, operation, and maintenance of trauma networks throughout the various regions of the 50 states requires additional funding, the funding proposed in the bill is inadequate to allow for the smooth functioning of a comprehensive, effective trauma care system in all regions of every state. The costs of complying with the administrative provisions of the bill alone could easily total more than the proposed annual appropriations levels. Thus trauma care will remain prohibitively expensive in most areas, leaving many areas of the country without adequate trauma care for residents.

Senator Hatch's Proposal (S.1274--Title V)

AHA believes that the measure proposed by Senator Hatch addresses several of the concerns expressed above and would, therefore, result in a more workable, effective system of trauma care. The bill would not require that states use the trauma care standards developed by ACS and ACEP. Rather, states would have the flexibility to develop their own standards for trauma services. This means that states would be able to tailor their networks to meet their own needs and to use the full range of available resources. Moreover, the bill recognizes the need for additional funding for development and operation of trauma networks, including the need for funds to cover the costs of uncompensated services associated with the provision of trauma care to indigent individuals.

We feel that Senator Hatch's initiative could be strengthened in several ways:

- To ensure that the bill guarantees a state's flexibility to develop its own standards for trauma services and adapt any private sector standards that might be adopted, AHA suggests that a provision be added to the legislation that clearly delineates a state's right to do so. As written, the bill's apparent incorporation of this vital principle could be preempted by the Secretary of HHS in any agency rulemaking promulgated in response to this Act.

- To ensure the financial viability of trauma networks, AHA suggests that the bill authorize adequate levels of funding to cover more of the enormous costs of developing and operating comprehensive trauma networks, particularly for uninsured patients. Proposed funding levels are inadequate to develop and maintain systems in all 50 states.

CONCLUSIONS

AHA recognizes the importance of a coordinated, comprehensive system of emergency and trauma care and encourages federal assistance to states to

develop such systems. For such a system to be workable and effective, however, it must:

- Preserve state flexibility to develop standards;
- Ensure continuity of the system once developed; and
- Guarantee access to services for all.

ARA looks forward to working with the sponsors of the current legislation and the members of this committee to strengthen the efforts proposed so that valuable trauma care services will be a reality for all Americans. The costs in terms of lives lost is too great for the trauma care problem to be ignored any longer.

Senator SIMON. Thank you.
Dr. RICHARDS.

STATEMENT OF DR. N. MARK RICHARDS, SECRETARY OF HEALTH, PENNSYLVANIA DEPARTMENT OF HEALTH, HARRISBURG, PA, ON BEHALF OF THE ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICERS

Dr. RICHARDS. Senator Simon, it is an honor to discuss these issues with you today. I am Mark Richards, Secretary of Health for the Commonwealth of Pennsylvania, but I am pleased to represent the views in this discussion of the Association of State and Territorial Health Officers. The acronym ASTHO is easier for me to say. I chair their Committee on Injury Prevention.

As you may know, we are composed of the chief health officers of the 50 States and the U.S. territories. We administer EMS funds in 47 out of those 50 States, and that explains, I believe, our interest in these important bills. We commend Senators Cranston and Hatch, because we believe that these bills would contribute substantially to reducing the morality rates from trauma.

We hope, certainly, to see a very strong Federal role become reestablished in EMS system development in the near future. The need to upgrade EMS systems in the States is great and we believe a strong Federal role is required in order to accomplish this.

We believe that there are elements of the two bills which would be appropriate, if combined into one eventual Senate bill, and we would like to list those concerns for you and indicate where they might enhance each other.

Relative, first of all, to EMS development, we support the development of the entire EMS systems, not just trauma care centers. They are, of course, one very important critical component of the EMS system, but alone they cannot effectively support the population unless the rest of the system is also strong.

The coordination of EMS systems at the State level is very important to the efficient development and effective functioning of these systems, and we believe this coordination is best achieved by directing Federal funds to the State health departments or other government directed agencies, rather than to the local EMS operating programs within the departments or at the local levels. Rural areas, as you have heard before, are in greater need of support and development than urban areas are. We believe that the allotment formulas in both bills are adequate to direct money to the States most in need of these developments, but we encourage you to include provisions which encourage rural EMS system growth right in the bill, such as incentives and such as requirements within the State plans.

To facilitate coordination, funding for the rural EMS provider should flow through the State health departments, not be given directly to rural providers.

ASTHO strongly encourages injury prevention programs in State and local health departments. Injuries are an enormous national public health problem, but we now know that effective interventions are available to reduce the rate of injuries and to reduce the need for trauma care. Many State health developments are now de-

veloping these programs under the guidance of the Centers for Disease Control, the lead Federal agency.

We recommend that the eventual Senate bill include requirements for State trauma care plans to include strong injury prevention components and to recognize the CDC's role in furthering this objective.

ASTHO feels strongly that the legislation should deal with uncompensated trauma care separately from the EMS bills, and for a variety of reasons. Several of these reasons are that the primary concern of this legislation, we believe, is capacity building for EMS systems. On the other hand, uncompensated medical care is a much larger national problem, and trauma care is only a part of that.

The appropriations in either bill are insufficient to have measurable impact on the national uncompensated trauma care problem.

We believe the most appropriate way to support uncompensated medical care providers has not yet been established.

Relative to the designation of trauma care centers, in rural areas and its small to moderate size cities, the emphasis on trauma center development is wise. In larger cities, however, the competition between hospitals for patients may often lead to costly duplication of services when each hospital builds its own comprehensive trauma unit.

We recommend that you give the option to the States to designate a group of neighboring urban hospitals as a trauma cluster or some other designation. Together, they could form a functional comprehensive center, without overpopulating the city with highly specialized staff and equipment. Triage protocols, we believe, should in all cases be able to result in patient delivery to the proper institution. We think, however, that States should have the option of deciding whether it is appropriate or not.

Relative to standards and guidelines, we certainly recognize the value and need for promoting high-quality EMS services, using uniform standards nationwide. We cannot, however, endorse the legislation of these standards, including those established by volunteer professional organizations, because private organizations simply do not answer to the people. Standard-setting authority properly resides with the Secretary of HHS and with the States. We support recognition of the two professional societies which you heard earlier today, because of their invaluable contributions, but we believe these objectives could be met by developing report language recommending that the States use these standards as guidelines in preparing the State trauma care plan, and the HHS Secretary then approves them with final authority.

Thank you very much for considering these remarks and I will be glad to join my colleague in answering your questions.

[The prepared statement of Dr. Richards follows:]

ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICIALS
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TESTIMONY REGARDING SENATE BILLS 15 AND 1274

Before the

SENATE COMMITTEE on LABOR and HUMAN RESOURCES

on behalf of

THE ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICERS

JULY 25, 1989

N. MARK RICHARDS, M.D.
Secretary of Health
Commonwealth of Pennsylvania

Senator Kennedy, and other distinguished members of the Senate Committee on Labor and Human Resources, I am Mark Richards, Secretary of Health for the Commonwealth of Pennsylvania. I am pleased to represent the views of The Association of State and Territorial Health Officers (ASTHO), of which I am a member. I also chair ASTHO's Injury Control Committee, which is concerned with the prevention of injuries. ASTHO is composed of the state health officers of the 50 states and the territories of the United States. Emergency Medical Services (EMS) funds are

administered by my collegues and myself in forty seven of the fifty states. Accordingly, we are very much interested in Senate Bills 15 and 1274, which we believe will contribute substantially to reducing mortality rates from trauma.

ASTHO hopes to see a strong federal role become reestablished in EMS system development. The need to improve our EMS services is great indeed, and we appreciate the opportunity to express our views today.

ISSUES SUPPORTED BY ASTHO, WITH RECOMMENDATIONS

The two bills include a number of initiatives which we are pleased to support. It is our hope that elements of each bill might be combined into the final one passed by the Senate.

1. EMS DEVELOPMENT

ASTHO strongly supports the strengthening of EMS services nationwide, with attention given to trauma care. States vary widely in their development of these services. We share your interest in making sure that all services are readily accessible and of uniformly high quality in all states.

We favor an approach that strengthens all of the

components of a comprehensive emergency medical system, including pre-hospital services and programs which prevent injuries. Senate Bill 15 places great emphasis on improving Trauma Care Centers. These Centers are crucial components of an effective system, but they cannot provide effective services to their population unless the remaining portions of the system also function well.

Comprehensive emergency medical services systems are composed of 15 distinct components, all necessary to serve a community well. These components were described in the pioneering Emergency Medical Services Systems Act of 1973 [1]. Specific reference to these components may be useful in new legislation.

2. DIRECTION OF FUNDS
(S.15 Sec. 1212 (a) Planning, Implementing, etc.)

The coordination of services at the state level is of crucial importance to the development and implementation of EMS systems. Clear benefits are provided EMS programs when

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1. The fifteen components include 1.) provision of manpower, 2.) training of personnel, 3.) communications, 4.) transporation, 5.) facilities, 6.) critical care units, 7.) use of public safety agencies, 8.) consumer participation, 9.) accessibility of care, 10.) transfer of patients, 11.) standard medical record keeping, 12.) consumer information and education, 13.) independent review and evaluation, 14.) disaster linkage, and 15.) mutual aid agreements.

they can interact closely with other public health services, such as the health education and hospital licensing programs found in state health departments. Service coordination is made possible by directing federal EMS funds to the 47 state health departments which administer EMS programs, and those governor-designated agencies in the other three states. Funds should not be directed to the EMS program offices in either urban or rural areas, because program monitoring is much more difficult.

RECOMMENDATION: ASTHO recommends amending Section 1212(a) of Senate Bill 15 by striking lines 17 and 18 on page 6 and adding "Official State Health Agency or Other Agency as Designated by the Governor."

3. ALLOTMENT FORMULA
(S.15 Sec. 1220(a) Formula; S.1274 Sec. 1221 (a) Improving Rural Emergency Services; S.1274 Sec. 1962 (a) Formula)

ASTHO strongly supports the strengthening of EMS services in rural areas. Allocation formulas should give the clear advantage to rural over urban program developemnt. Special provisions should be included in the eventual Act which promotes rural EMS systems. We are comfortable with the allocation formula in both bills, each of which should accomplish these objectives. A minimum allottment is important to insure states with small

populations receive adequate funding.

Incentives should be included to encourage the establishment of rural level 3 trauma care centers when appropriate, 911 emergency call systems, equipment purchase, personnel training, and the growth of basic and advanced life support capabilities.

Funds should not be awarded directly to rural EMS providers, however. Grants should be administered by the state health departments, for the reasons given above.

4. MEDICAID STUDY
(S.15 Sec. 4(a) Medicaid Policies of States.)

We encourage a study of Medicaid support for trauma centers. We believe strongly, however, that the study should be extended to other vital portions of the EMS system as well. For example, public reimbursement of ambulance services should also be examined in any such study. Rural services, in particular, depend heavily on support by public insurance. These agencies are often in a difficult financial position. The current policies on Medicare and Medicaid reimbursement of ambulance services are inadequate and often unfair to EMS providers.

RECOMMENDATION: ASTHO recommends amending Section 4(a) of Senate Bill 15 by adding after "reimbursed" on page 34,

line 14, the sentence "The study shall also determine the state policies for reimbursement of ambulance services under Title XIX of the Social Security Act."

5. INJURY PREVENTION
(S.1274 Sec. 1965 (a)(1), Improving or establishing accident prevention programs.)

Injuries are a public health problem of enormous significance.

- Injuries cause more years of preventable loss of life than any other condition.

- Injuries are also the leading cause of death for people ages 0 through 44 years.

- One out of every eight hospital beds is occupied by an injured person.

Injury prevention programs are being developed in many health departments in the United States, in recognition that effective interventions are available. The cost savings due to injury prevention, expressed in dollars and human suffering, are enormous. The U.S. Public Health Service Centers for Disease Control are taking the lead in promoting these efforts. ASTHO recommends that support for injury prevention should be a significant component of new legislation, because many cases of trauma are preventable.

RECOMMENDATION: ASTHO recommends that the need for

injury prevention strategies be strongly expressed in report language to accompany the bill. The report should recognize and involve the Injury Control Program at the Centers for Disease Control, the designated lead federal agency.

6. PROGRAM FLEXIBILITY

ASTHO strongly supports giving states the greatest degree of discretion and flexibility possible in designing and implementing their EMS systems. States vary widely in the level of development of their EMS programs, and each will necessarily have different priorities for upgrading their EMS systems. Nevertheless, we do favor sufficient guidelines and oversight to promote uniformity and high quality systems nationwide.

7. PROVISION OF FUNDS
(S.15: Sec. 1211 (a), Requirement of Allotments for States; S.1274: Sec.511, Emergency Medical Services Block Grant)

ASTHO is in favor of distributing federal EMS funds in block grant form, to provide flexibility in the use of this resource. We prefer an expansion of the Preventive Health and Health Services Block Grant because of the ease of administration, but would find a separate EMS block grant to be a workable solution. In no case would we favor a

substitution for current PHHS Block Grant funds.

ASTHO's CONCERNS, WITH RECOMMENDATIONS

1. UNCOMPENSATED TRAUMA CARE
(S.15, Sec. 1212(b), Trauma Care Expenditures; S.1274, Sec. 1965(b) Trauma Care.)

ASTHO feels strongly that reimbursement to Trauma Centers for uncompensated care should be addressed separately from EMS legislation, for many reasons.

A. The primary intention of these bills is to build EMS capacity in the states. Uncompensated care is a health financing issue, part of a much larger national problem. The best way to protect hospitals and other health service providers against uncompensated care is not known, and many experiments are now underway in many states. One such pioneering effort in Massachusetts is now having unexpected difficulties. Many solutions to resolve the problem of uncompensated care have been offered, but no agreement has been reached about the best one.

We believe the issue of uncompensated trauma care should be addressed as part of the solution for this larger medical problem.

B. The two bills under discussion provide insufficient

support for uncompensated hospital trauma care. The total authorization in these bills is not likely to have measurable impact on trauma care. Other portions of EMS systems are also underfunded, and they would be severely disadvantaged.

We do recognize that some trauma centers have had to close because of uncompensated care. If support for these centers is deemed essential to these bills, we recommend that a cap be placed on such expenditures. We suggest that states be permitted to use up to 35% of their total grant for uncompensated trauma care, and that any such expenditure be at the discretion of each state.

C. EMS programs are not organized appropriately to administer patient care funds. EMS program staff have no experience in medical economics, no understanding of hospital finance, and no authority to review hospital records or collect financial data. EMS programs do not administer Medicaid funds to medical providers, or have ready access to their records. Such a reimbursement procedure would duplicate these functions found elsewhere in state governments. This process would consume money and time which otherwise could be spent on the primary EMS mission.

D. States vary in the amount of uncompensated trauma care in their jurisdictions. Some states have managed

uncompensated medical care by other means, and could use the grant funds for EMS system needs of higher priority in their jurisdiction.

RECOMMENDATION: ASTHO prefers that Section 1212(b) of Senate Bill 15 be deleted. If this is not acceptable, we suggest amending Section 1212(b) by substituting the word "more" for "less" on page 7 line 20, and substituting "may" for "shall" on page 7, line 23.

2. TRAUMA CARE CENTERS
(S.15, 1214(b) (3), Requirements of Plan.)

We believe the emphasis placed on trauma center development is wise, especially in rural areas. In the competitive urban environment, however, the development of comprehensive centers which incorporate all areas of expertise and equipment leads to unnecessary and expensive duplication of facilities, staff, and services. ASTHO favors giving states the option of designating "Trauma Hospital Clusters", neighboring urban hospitals which share expertise. In such a cluster, no one hospital would constitute a comprehensive Trauma Center. Local ambulance providers would certainly know which hospitals were appropriate for each of their patients, using triage protocols.

The savings in the expense of building and staffing competing Trauma Care Centers may be great in our larger cities. The promotion of cooperative working relationships between hospitals would be extremely beneficial to medical care services in general.

RECOMMENDATION: ASTHO recommends the legislation specifically give each state the option to designate trauma care hospital clusters, and not limit their options to Trauma Care Centers.

3. STANDARDS AND GUIDELINES
(S.15, Sec. 1214(d), Certain Standards with Respect to Trauma Care Centers and Systems.)

ASTHO recognizes the desirability of promoting uniformity nationwide in EMS services. Adopting standards developed and maintained by the American College of Surgeons (ACS) and the American College of Emergency Physicians (ACEP) may achieve this in principle. We support recognition of these societies' contributions because of their importance to EMS development. ASTHO opposes legislating standards, however, including those developed by volunteer organizations. We strongly favor leaving the ultimate authority for system standards with the Secretary of HHS and with the states, because private organizations are not accountable to the people. These considerations

could be achieved by recommending in report language to accompany the bill that the ACS and ACEP standards serve as guidelines. Ultimate approval of the states' standards would be given by the Secretary, the standards to be included in the states' Trauma Care Plans.

RECOMMENDATION: We recommend that language be adopted which provides for states to develop standards. We suggest that report language accompany the bills recommending the ACS and ACEP standards as a guide in developing state standards. ASTHO recommends amending Section 1214(d) of Senate Bill 15 by striking everything after "policies" on page 19, lines 18, 19, 20, and 21.

This concludes my testimony. I thank you very much for your consideration of these remarks. I would be happy to address your questions.

Senator SIMON. I thank you.

First, if I may, in looking at your written testimony, one of the things you suggest is on page 7, trauma care expenditures. The bill now says not less than 37 percent of the amount available for a fiscal year to a State, the total amount paid to a State under section 1211 for such fiscal year shall be used by the State. You suggest "not more than 5 percent."

Dr. RICHARDS. That is correct. We are afraid that unless this amount for uncompensated trauma care is capped, it would swallow potentially the resources of money coming to the State. And since we feel that trauma care centers are a portion of what needs to be developed, but not the entire portion, we feel that this would put those States in serious jeopardy in which the trauma care is seriously jeopardized because of under-funding. We think that there may be other ways to deal with uncompensated care except through this bill.

Senator SIMON. One of our concerns, as we view any kind of legislation, is that we do not want to set it up in such a way that we end up, frankly, doing the job that the State ought to do in terms of paying for its own administration. You do not see any danger of doing that if we change this language?

Dr. RICHARDS. I think that your limit of 5 percent on administration is appropriate. We think that States can operate within that limit and, as long as that cap is 5 percent for administration is there, I think that is——

Senator SIMON. You think that is still adequate?

Dr. RICHARDS. Yes, I would.

Senator SIMON. Mr. Muller, as I listened to your story and your costs, this bill, (1) if it had been in effect before you closed your trauma center, it probably would not have prevented you from closing it, or I should ask that in a question, would it have prevented it, and (2) if it passes, would it cause you to reexamine and reopen your trauma center, assuming the funding level is at the level called for in the bill? Because at this level, the State of Illinois would get roughly $3.7 million for the whole State. You lost $2 million in your single operation.

Dr. MULLER. We, in fact, used to participate in two trauma networks, one for adults and one for children. We still participate as a pediatric trauma center at our anchor of that for the city of Chicago, so we continue to provide that care.

For adults, I would say that the funding recommended in this bill would be insufficient to bring us back in, and I think, really, one of the main thrusts of my comments today is with the falling apart of the L.A. system, the real threats in Chicago, Miami and elsewhere, we do have to look at funding for this, whether it is at the Federal or the State level.

The fact is that these trauma systems do save lives and that has been made very clear from testimony today. On the other hand, there are other programs of also great consequence, the infant mortality campaigns and so forth, that also require the participation of hospitals like ours.

The fact is that many of the great problems that beset our society today, whether it is the problems of drug abuse or AIDS, infant mortality or trauma care, fall on the same institutions, and, as I

mentioned in my listing earlier, our hospital is an anchor in perinatal, in drug abuse, we do the children's trauma and we are one of the regional burn units, and all these programs come together in one place, put a great financial strain on us and that is why we provided that $36 million of uncompensated care last year.

The funding level in this bill would be insufficient to bring us back into the adult trauma network.

Senator SIMON. On your adult center, you lose what, all $2 million lost there or $1 million or what?

Dr. MULLER. The $2 million there. We lose more money in the children's area, but we have decided to continue to sustain that loss.

Senator SIMON. $2 million.

Dr. MULLER. The $2 million is what we lost in the adult center.

Senator SIMON. And that is what percentage of the trauma patients you would have served, would have been what percentage in the State of Illinois, roughly, maybe 10 percent or——

Dr. MULLER. Well, we were providing in the city of Chicago roughly, I would say, about 30 percent of the trauma care. I can enter in the testimony later what it is for Illinois, but we were a big chunk of Chicago.

Senator SIMON. The city of Chicago has about 30 percent of the population of the State, but you would probably have an above-average percentage of trauma patients?

Dr. MULLER. Yes. We, in fact, while nationally the victims of injury from gunshots and knife wounds are not a small percentage, they are a very high percentage of the trauma scene in our hospital, so that is much more disproportionately seen in our part of the city than it would be in other parts of the State.

Senator SIMON. Just using the pure population figures, this bill would almost have to—well, it would have to be increased by a factor of 4 or something in order to really bring you into thinking seriously about opening your adult——

Dr. MULLER. It would, and I would say that the Congress' thinking about disproportionate share in general has been very heartening to a place like the University of Chicago and other urban centers, because I do think it is fair that those hospitals and those physicians, those care-givers who take on more of the responsibilities in the city and the rural areas get more than a share of the funding that is made available, so I do think disproportionate share thinking about these kind of issues is highly welcome to places like ours, and I do think it would be very appropriate, given that we are the anchor and the linchpin of so many of these health care systems, that more of the Federal money and State money frankly comes to places such as ours.

Senator SIMON. Dr. Richards, the bill is now scheduled, it says it will take effect October 1 of this year or on the date of the enactment of this Act. Is there a time gap that is needed administratively to put something like this into effect? Should we say it should take effect 6 months after the date of enactment or something like that?

Dr. RICHARDS. If the State is given the responsibility for administering the uncompensated care funds, I think the primary issue would be to try to set up the administrative mechanism to do that.

Realistically, it would probably be folded into the Department of State Government which administers Medicaid money and they would have to hire and train additional staff and develop the fiscal controls for doing that.

Since I do not reside within that department, it is not possible for me to know, but I do not think that could be gotten up to speed much sooner than probably 4 to 6 months in most States.

Senator SIMON. All right. Let me add, for all the witnesses, there will be some additional questions submitted in writing by some of my colleagues. We would appreciate your answering them as quickly as you can so we can get that into the record.

We appreciate your being here and all the witnesses. Our hearing stands adjourned.

[Additional material submitted for the record follows:]

TESTIMONY OF THE SOCIETY OF CRITICAL CARE MEDICINE

S. 15, the "Emergency Medical Services and

Trauma Care Improvement Act of 1989"

The Society of Critical Care Medicine is a non-profit, multi-disciplinary, multi-professional organization formed in 1970 by specialists from anesthesiology, internal medicine, pediatrics, and surgery. From 28 individuals, the Society has grown in 19 years to more than 3,400 persons, including physicians, nurses, respiratory therapists, pharmacists, scientists, technologists, engineers, and persons working in health-related industries. Members of the Society blend the knowledge, skill and technology from the four medical specialties, nursing and allied health professions into a coordinated effort to achieve an optimal outcome for critically ill or injured patients. The goals of the Society include improving care for patients with acute, life-threatening illnesses and injuries, promoting and developing optimal facilities within which critical care medicine may be practiced, and assuring high educational standards in critical care medicine.

Given these stated goals, the Society is most interested in sharing with the Committee its support for Senator Alan Cranston's legislation to improve trauma care services (S. 15). The General Accounting Office (GAO) has determined that since the elimination in 1981 of the categorical grant program for emergency medical services, efforts to improve access to high quality trauma

care was receiving too little emphasis from state and local authorities. The GAO recommended that Congress and the Department of Health and Human Services assist state and local efforts to improve trauma care services.

S. 15 would bolster our nation's communities' access to quality emergency services in a most substantial manner. Trauma is the leading cause of death in persons under age 45 and kills more people under age 35 than all diseases combined. An estimated 140,000 Americans die annually from trauma, while an additional 80,000 suffer permanent disability from severe head and spinal cord injuries. Sadly, approximately 15 to 20 percent of trauma deaths and permanently disabling injuries could be prevented if medical treatment were provided in designated trauma centers. Success in caring for trauma victims depends heavily on the efforts of trauma center personnel who provide immediate, life-saving techniques and stabilize the patient for transfer to the intensive care unit (ICU). Once in the ICU, trauma patients benefit from extensive, round-the-clock care provided by critical care practitioners.

The United States witnessed just a short time ago the critical roles which response time, proximity and preparedness play in trauma care. Many health care officials have credited the two excellent trauma care facilities near the Sioux City airport and their rescue preparation with the astounding survival rate of the otherwise disastrous crash on July 19 of a DC-10. In a situation where mere minutes mean the difference between life and severe disability or death, rescue workers were quickly able to

evacuate survivors to the nearby facilities for the appropriate emergency treatment.

Studies recently completed or reported in the press confirm the improved outcome of patients when the admission is corrected for severity and the patients are cared for in centers which focus on particular areas of medicine, such as trauma. Trauma centers possess the resources and practice necessary to achieve high quality care and must be linked by transport networks so that all individuals have timely access to these centers.

Medical care and lost productivity as a result of trauma injuries robs this nation of more than $130 billion per year. The proposed authorization by S. 15 of $75 million would help our local and state authorities establish well-coordinated trauma care systems so that severely injured persons could receive highly specialized trauma care as rapidly as possible. Moreover, this legislation would enable trauma care centers to receive direct financial relief for uncompensated care, easing an increasing burden confronting our health care facilities. In return, our communities will benefit from the implementation of a state-wide plan of minimum standards and guidelines for the implementation of these systems, including requirements for the designation of trauma centers, prehospital triage to identify injury victims, and policies for hospital and ambulance transport and transfer. S. 15 also recognizes the value of *preventive* action to avoid the incidence of trauma and includes public education about injury prevention, as well as a data collection system so we can better learn from our experiences.

The Society of Critical Care Medicine supports Congressional efforts to bolster Americans' access to superior care for trauma injuries. We look forward to the passage of this legislation and stand ready to offer input regarding its eventual implementation.

PREPARED STATEMENT OF THE AMERICAN COLLEGE OF RHEUMATOLOGY

The American College of Rheumatology is the world's largest organization of physicians and scientists dedicated to providing leadership in arthritis research, education, and patient care. We appreciate the opportunity to provide comments on S. 1392, the Biomedical Research Act of 1989.

Title I: Research Facilities

The ACR supports this provision which will address the need for federal support of research facility construction and renovation. Although the problem of aging and obsolete research facilities has been evident for many years, essentially no direct assistance has been available from the federal government for the past two decades for physical maintenance of the nation's biomedical research facilities. Further, new facilities are desperately needed to meet today's expanding research needs. Many instances have been documented in which specific research efforts have been jeopardized by inadequate facilities at institutions across the country. If uncorrected, the deterioration of the research infrastructure at U.S. academic institutions would undoubtedly thwart our nation's position of prominence in the conduct of biomedical research activities.

Under this provision, public and non-profit research institutions would apply directly to NIH for construction funds, the award of which is to be determined through peer review. The ACR appreciates Congress' recognition of this situation, and its efforts to rectify it, through this legislation.

Title II: Center for Medical Rehabilitation Research

The ACR strongly supports initiatives which would increase emphasis on medical rehabilitation research. Such efforts are properly placed within the National Institutes of Health in light of the NIH's existing rehabilitation mandate. However, we are concerned about this proposal which would create a separate entity within the NIH for this purpose. For reasons stated below, we believe that the better approach would be enhancement of medical rehabilitation research within existing institutes already carrying out such activities.

As physicians and scientists who care for people with arthritis and other diseases affecting the joints, muscles and bones, we are integrally involved in the development of appropriate rehabilitative measures aimed toward enhancing the quality of our patients' lives. Although the individual areas of rehabilitation research (e.g. for arthritis, for neurologic diseases, etc.) do share certain underlying principles, each area is also very different in the details of its focus. In light of the specialized expertise and focus of the researchers within the existing institutes, we believe that each institute is ideally suited to support rehabilitation research within its own field.

In addition, the conduct of such research within a given field will increase cohesiveness among members of the research team, as well as the cohesiveness of the discipline itself. For example, investigators in the area of arthritis rehabilitation--supported by an expanded program within the NIAMS--would continue to benefit from their interactions with other members of the arthritis research community. As professionals with different research orientations work cooperatively within a particular area of medicine/health

care, a higher level of effectiveness is possible than if clinical and basic science approaches fragmented.

Another concern, which is secondary, but still worthy of mention, is the likelihood that the creation of a separate administrative entity within the NIH structure might actually dilute funding which could otherwise go toward the research itself. Especially in light of our other concerns about the functioning of such a center, we are convinced that the administrative costs involved in establishing a separate center for medical rehabilitation research are not justified in order to achieve an increased focus and coordination of medical rehabilitation research efforts.

In order to provide the needed coordination among rehabilitation research efforts properly placed within existing institutes, the ACR recommends the establishment of an Advisory Council for Medical Rehabilitation Research, reporting to the Director of the NIH. This advisory body would be composed of the Directors of the institutes conducting rehabilitation research, as well as outside members from the field of rehabilitation research. The Advisory Council would oversee and coordinate the rehabilitation research activities within NIH and provide guidance to those institutes supporting such research. If it were determined by the Advisory Council that a specific research need existed that was not being addressed by any existing institute, the Council could identify the appropriate institute to expand its purview to address such a need.

In sum, the ACR supports enhanced medical rehabilitation research activities within the NIH, through increased emphasis on (and funding for) these activities within the separate institutes, and augmented by coordination through an advisory body reporting to the NIH Director. We stand ready to assist the committee in drafting legislation consistent with this approach.

Title III: Scientific Personnel Demonstration Program

The ACR strongly supports the creation of a scientific personnel demonstration program aimed at addressing the growing difficulties NIH is experiencing in attracting and retaining an adequate group of basic biomedical scientists and clinical investigators which will be needed to ensure continued scientific excellence. Recommendation of such a demonstration project was the centerpiece of a recent report of the Institute of Medicine (IOM) which resulted from a six-month study undertaken at the request of the OMB to assess the health of the NIH intramural program (Committee of the Institute of Medicine. A Healthy NIH Intramural Program; Structural Change or Administrative Remedies? 1988).

The IOM panel documented "considerable and growing disparity" in NIH salary scales, compared to similar positions in academia and industry. Although attention has focused on upper brackets, it is believed that difficulties in retaining outstanding senior scientists will negatively affect the Institute's ability to attract junior investigators, as well. Issues of inadequate pay have also affected mid-level scientists. NIH employment trends indicate that as these scientists progress and begin to encounter salary compression due to pay limitations in the senior ranks, they leave the Government just as they are entering the peak of their careers. Within the last year, salary considerations have led prominent mid-level scientists in several fields to leave NIH. NIH encourages this to some degree, because it fosters cross-fertilization of ideas between NIH and the academic community. However, continued pay limitations may ultimately mean that NIH will have fewer well trained mid-level researchers available to fill senior leadership positions. We fully support a personnel demonstration program which would afford NIH

the authority to exceed the federal pay ceilings in limited instances, in order to address these hiring and retention problems.

Title IV: NIH Director's Discretionary Fund

The final provision of S. 1392, creation of an NIH Director's discretionary fund, also is responsive to a recommendation included in the IOM report, aimed at improving management within the NIH. This provision, which would authorize the use of up to $25 million in each year at the discretion of the NIH Director, has the enthusiastic and unequivocal support of the ACR. In testimony before this committee, NIH Director James Wyngaarden suggested that such authority would be extremely helpful in situations where a certain institute (or institutes) may be faced with unusual and unforseen funding constraints in a given funding cycle. We wholeheartedly agree, and believe, in addition, that the flexibility afforded under this proposal would benefit the conduct of biomedical research overall, and would work to aid national efforts to better address new and emerging scientific issues.

The ACR is grateful for the opportunity to provide input on S. 1392. We look forward to working with the Committee on this critically important legislation.

PREPARED STATEMENT OF THE AMERICAN ACADEMY OF NEUROLOGY

The American Academy of Neurology (AAN), is an organization of over 10,000 neurologists and neuro-scientists across the United States, and world-wide. We appreciate the opportunity to provide comments on S. 1392, the Biomedical Research Act of 1989.

Title I: Research Facilities

The AAN supports this provision which will authorize federal support for research facility construction and renovation. Essentially no direct assistance has been available from the federal government for physical maintenance of the nation's biomedical research facilities for at least the past two decades, even though the problem of aging and obsolete research facilities has been apparent for some time. New facilities are also needed in order to meet today's expanding research needs. Many instances in which specific research efforts have been hindered by inadequate facilities have been documented at institutions across the country. If uncorrected, the deterioration of the research infrastructure at U.S. academic institutions could thwart our nation's position of prominence in the conduct of biomedical research activities.

Under this provision, public and non-profit research institutions would apply directly to NIH for construction funds, the award of which is to be determined through peer review. The AAN supports this approach, and appreciates Congress' recognition of the importance of this issue.

Title II: Center for Medical Rehabilitation Research

The AAN strongly supports increased emphasis on medical rehabilitation research. Such efforts are properly placed within the National Institutes of Health in light of the NIH's existing rehabilitation mandate. Dramatic advances in our understanding of brain dysfunctions and injuries has occurred in the last 20 years. We are on the threshold of further advances, predicated on enhancing basic and clinical neuroscience research in close association with advanced post-doctoral training in neurologic rehabilitation focusing on restoration of brain function.

However, we are unsure whether the creation of a separate entity within the NIH for this purpose represents the best use of limited resources. We tend to think that the better approach would be to augment medical rehabilitation research activities within existing institutes already carrying out such research, among them the National Institute of Neurological Diseases and Stroke (NINDS). We believe that the conduct of rehabilitation research within a given institute will increase cohesiveness among members of the research team, as well as the cohesiveness of the discipline itself. Investigators in the area of neuro-rehabilitation, supported by an expanded program within the NINDS, would continue to benefit from their interactions with other members of the neurologic community which might not occur were the clinical and basic science approaches fragmented.

Title III: Scientific Personnel Demonstration Program

The AAN supports the creation of a scientific personnel demonstration program to address the growing difficulties NIH is experiencing in attracting and retaining an

adequate group of basic biomedical scientists and clinical investigators which will be needed to ensure continued scientific excellence. Recommendation of such a demonstration project was the centerpiece of a recent report of the Institute of Medicine (IOM) assessing the health of the NIH intramural program (Committee of the Institute of Medicine. A Healthy NIH Intramural Program; Structural Change or Administrative Remedies? 1988).

The IOM panel documented "considerable and growing disparity" in NIH salary scales, compared to similar positions in academia and industry. Although attention has focused on upper brackets, issues of inadequate compensation have also affected junior and mid-level scientists. The Academy fully supports a personnel demonstration program which would afford NIH the authority to exceed the federal pay ceilings in limited instances, in order to address these hiring and retention problems.

Title IV: NIH Director's Discretionary Fund

The final provision of S. 1392, creation of an NIH Director's discretionary fund, also is responsive to a recommendation included in the IOM report, aimed at improving management within the NIH. The Academy agrees with the findings of the panel that the flexibility afforded under this proposal would benefit the conduct of biomedical research overall, and would work to aid national efforts to better address new and emerging scientific issues.

The AAN is grateful for the opportunity to provide input on S. 1392. We look forward to working with the Committee on this critically important legislation.

PREPARED STATEMENT OF THE AMERICAN ASSOCIATION OF DENTAL SCHOOLS

The American Association of Dental Schools is pleased to offer this testimony on the subject of biomedical and clinical research facilities and to present our concerns about the current physical state of dental research facilities. The American Association of Dental Schools (AADS) represents all of the nation's dental schools as well as advanced education institutions, hospital dentistry and allied dental education programs. It is the only national organization concerned exclusively with the needs of dental education.

This statement comments on S. 1392, identifies reasons why a federally sponsored effort to meet these needs is so critical at this time, summarizes the results of an American Association of Dental Schools - American Association for Dental Research (AADR) facilities survey, and highlights some concerns unique to dental research.

AADS strongly endorses the new support proposed for biomedical and behavioral research facilities in S. 1392. Dental institutions are in desperate need of Federal support to upgrade our research institutions.

We are very pleased that S. 1392 instructs the Director of the National Institutes of Health, in selecting persons for appointment to the Technical Review Board on Biomedical and Behavioral Research Facilities to consider factors such as "familiarity with the need for dentistry ... research facilities". Dental research facilities needs in general, and clinical dental research needs in particular, vary significantly from those of medical research. In recognition of this fact, S. 1392 addresses the need for diversification of membership on the Technical Review Board.

Sec. 499C (b) (3) (D) and (E) would require that the Technical Review Board assess approved but unfunded grant applications and, as part of its annual report, recommend changes in the facilities awards implementation. We are most supportive of this provision, as a number of our members have expressed concern that the merit review priorities may have the unintended effect of rendering certain kinds of institutions ineligible for facilities awards. By examining approved but unfunded grant applications, the Board would be able to detect any patterns that emerge and suggest changes in the process to keep the possibility of grant support open to all classes of institutions.

AADS supports the matching grant program proposed in S. 1392 to be used in modernizing and expanding facilities. We believe that a 50 percent match will serve as a strong incentive for institutions to raise state, private, and institutional capital. However, recognizing the considerable reliance dental schools already place upon non-federal funding sources, we urge adherence to the 50 percent match as a maximum requirement for schools.

We understand that all disciplines are suffering financial difficulties, however, we believe that the situation is especially acute in dentistry. Dental schools do not receive federal support for the expenses they incur in operating their clinics, the locus for the practical applications of dental research. In fact, these clinics are already heavily subsidized through tuition, which combined with state and local funding, makes up over two-thirds of dental schools financing. Thus, our members have limited flexibility in redirecting any of the remaining revenue they receive into needed renovation of their research facilities or improvement of much needed clinical research areas.

There is a historical precedent of federal support for construction and renovation of biomedical research facilities. In response to a post-war expansion in biomedical research, a facilities construction authority was established in 1956 to provide the physical structures needed to house the growing enterprise. In the 1960's, legislation was enacted to assist in the construction of health professions teaching facilities; eligibility for these grants was later extended to facilities conducting health research. Since the early 1970's, however, there has been virtually no federal money available for research facilities.

Unfortunately, dental research institutions have not had the resources to make up for the lost federal revenue, nor is the National Institute for Dental Research in a position to address the facilities problem without additional federal resources. Already the current budget situation requires routine downward negotiation of grants, and does not allow for training stipends that are comparable with other scientific disciplines. The absence of a federal facilities initiative means that our institutions are falling further and further behind in paying for maintenance that has been deferred for years, and in meeting the demands imposed by new directions in dental research.

In 1988, AADS and AADR surveyed the nation's dental education institutions in order to ascertain their needs and activities in the area of biological and clinical research facilities. The survey instrument employed was an abbreviated version of an instrument used by the National Science Foundation and the National Institutes of Health to ascertain the condition of the research facilities at medical and other academic institutions. NIH obtained discrete data on the facilities needs of medical schools, but dental schools were not distinguished from other surveyed academic institutions. Because dental research facility needs vary considerably from those of medical schools, an independent survey of dental research facilities was undertaken.

The AADS-AADR survey of research facilities gathered information from the nation's 58 dental schools and 5 advanced dental education institutions regarding the construction

renovation, financing and condition of these facilities. Responses were obtained from 46 of the 63 institutions.

Some of the most significant findings of the AADS-AADR survey include:

1) Research facility construction and renovation activity at dental schools, both in terms of the percentage of institutions undertaking that activity and the percentage of research space that will be affected, is far below that occurring at medical schools and colleges and universities as a group.

2) Dental schools are engaging in too few new construction projects to make conclusions about their financing. For repair and renovation projects institutional sources are used primarily, as is the case with medical schools but not universities and colleges as a group.

3) 7 dental schools rate their clinical research facilities as "inadequate". 5 have no clinical R&D facilities whatsoever. Therefore, over 27% of the schools responding to the survey have extreme needs in this critical area.

The NIH survey reported that a great deal of construction activity is occurring in the biological and medical sciences, but few substantial renovation projects are being undertaken. The data from the AADS-AADR survey indicates that dental schools are lagging significantly behind other academic institutions in initiating new facilities projects and are also engaging in a smaller percentage of projects to repair and renovate existing research facilities. Whereas 68% of the medical and 58% of the Ph.D. granting institutions are planning construction projects only 13% of the dental schools are undertaking projects to build new facilities. A similar pattern holds for renovation projects, with only 39% of the dental schools planning significant renovations of $100,000 or more, while 68% of medical and 64% of Ph.D. institutions are working on such projects.

When comparing the square footage of space being constructed or renovated as a proportion of total research and development (R&D) space available, dental projects trail behind both the medical and other institutional categories as shown in the following table.

R & D Facilities Construction and Renovation,
FYS 1986 - 89 as a proportion of total available
R & D Square Footage.

Discipline	Construction	Renovation
Dental	17.4	7.1
Medical	25.0	30.0
Ph. D.	21.0	28.0

The AADS study also looked at sources of funding utilized by dental institutions for construction and renovation projects. The small number of new construction projects did not allow detailed analysis, however, dental schools relied upon institutional sources for 69.8% of their renovation funding. The equivalent figures for medical schools and all other universities and colleges respectively were 53% and 32%. Dental and medical schools received approximately 15% of their renovation funding through state and local government sources which was significantly smaller than all other academic institutions. This great reliance of dental schools on institutional sources for renovation projects, coupled with extremely limited new construction activity, suggests that a lack of funding may account for the dearth of new building at dental research institutions.

One significant piece of information that is provided by the AADS-AADR survey which was not requested in the NIH-wide one concerns dental clinical research areas. These clinics are the primary locus of hands-on training for dental students, and are also the setting for applied dental research. AADS asked its institutions whether their clinical research facilities were "adequate," "generally adequate," "inadequate," or "non-existent". AADS's survey found that only 12 of 45, or 27%, of the clinical R&D facilities were "adequate," while 20, or 44%, were "generally adequate." 7 institutions cited these research areas as being "inadequate," while 5 had no clinical research facilities whatsoever. Thus, over 27% of the respondent institutions have major clinical facilities needs.

While many of our institutions have indicated plans to upgrade their facilities to address their needs, they must wait-- often for years-- for approval of proposals to finance their renovation projects. Even those who have succeeded in securing state, institutional or private funds have found these sources to be limited; the money that is available generally can support only small repair or maintenance projects, it is not sufficient to fund the upgrading and renovation of facilities that is necessary.

The rapid expansion of AIDS research in dentistry has resulted in a pronounced emphasis on virology and immunology, creating a corresponding change in facilities demands. Recent requirements concerning the proper handling of hazardous materials, radioactive waste disposal, and isolation of toxic agents used in virology research, as well as new requirements concerning the use of laboratory animals, have exacerbated the basic facilities problem that has existed for some time. Additional renovation is needed even for those institutions that have recently remodeled their older laboratories.

AADS is encouraged that this committee is considering federal action that will begin to address the facility needs identified by the research community. Our association will be pleased to assist as needed in the development and support of such legislation.

PREPARED STATEMENT OF THE AMERICAN ACADEMY OF PEDIATRICS

These remarks are submitted respectfully on behalf of the American Academy of Pediatrics, an organization which represents more than 37,000 pediatricians dedicated to improving the health and welfare of our nation's infants, children and adolescents. Pediatricians remain deeply grateful to Senator Alan Cranston (D-Calif.) and his colleagues for introducing S.15, the Emergency Medical Services and Trauma Care Improvement Act of 1989. There is a pressing need for this legislation if appropriately refined to ensure that the unique needs of children are adequately recognized and addressed within such a system. The Academy continues to support the development of a pediatric emergency medical services system that is integrated within the overall emergency medical services system--and not a separate system for children.

Having said that, children do indeed need special attention in any emergency medical services system. They are not merely small adults, and in no circumstance is this distinction more important than when a child is sick or injured. Their needs differ from those of adults physically, metabolically and emotionally. Children react differently to stress, they metabolize drugs differently, and they suffer different injuries from those of adults. For example, head injuries are more common in children than they are in adults. Yet prompt and vigorous treatment can often save children with head injuries so severe that they would be fatal for

adults.

Children's bodies respond differently from adults' to disease, and often children cannot tell you what is wrong. Special pediatric expertise is required to examine children brought for urgent evaluation in order to recognize subtle signs and symptoms which only indicate serious underlying disease or injury. Special interviewing techniques are needed to recognize the effect of the emergency on the child's emotions, behavior, growth and development, and to interpret x-rays and laboratory tests which have standards different from those for adults. Experience in pediatrics is also required to detect social problems such as child abuse and neglect, severely disturbed parent-child relationships, and social deprivation which may appear under the guise of physical illness.

Children have small bodies, so they require special equipment for their care, e.g., tiny needles for drawing blood from their veins, small tubes for intubation should they need to be resuscitated and special intravenous solutions. The absence of these in an emergency room can cause delay in diagnosis or treatment that may be life-threatening.

Finally, the setting of pediatric emergency care is usually the adult emergency room, where children may be exposed to disturbing scenes of death, grief, violence and trauma, any

or all of which can affect a child adversely. Not only is the child unable to understand what is happening, but a strange environment and separation from his or her parents may have a profound impact. Emergency room personnel need to be sensitive to the child's needs as well as parents'. In the event of a child's death, knowledgeable, compassionate professionals are necessary to help the family begin a healthful grieving process.

Emergency medical services have particular importance to children because accidental injuries are their leading cause of death. Reliable statistics indicate that 25,000 children die and 100,000 children are permanently crippled by trauma annually. Up to 55 percent of all deaths up to age 18 are due to injuries. Of all patients receiving care in the nation's hospital emergency departments, 20-35 percent are children or adolescents. On weekends and at night, children may comprise 40 percent of all visits. More than 18 million children receive emergency medical services annually and, of these, 4 million are treated in the emergency room of small and rural hospitals of fewer than 100 beds.

Unfortunately, although many regions have well developed emergency medical services systems, few have been designed with children's needs in mind. As such it is especially critical that the development of a national EMS system include centers with specialized capabilities and expertise

in the care of the pediatric patient.

The good news is that steps have been taken to develop the framework for such a system. Congress, through the leadership of this panel and like-minded colleagues such as Senator Daniel Inouye (D-Ha.), moved sagaciously in 1983 to pass the pediatric emergency medical services act, which funded several demonstration grants for states to develop pediatric emergency medical services systems. Data gathered from the projects have provided guidelines around which pediatric emergency medical services systems can be developed. The Academy strongly believes that this crucial information, compiled only after a federal outlay of some $10 million, logically ought to be incorporated into systems that will become part of emergency medical services and trauma centers inspired by S. 15, thus ensuring the development of a comprehensive, coordinated system of emergency medical care.

Which speaks directly to meaningful shortcomings in this legislation. S. 15, for all its merit, still contains language which yields a decidedly adult orientation to care and services, a focus on trauma that fails to acknowledge fully the new and vital perspective we have gained in recent years on effective emergency medical services for children.

Remedies are available, including some simple ones. The Academy recommends that State Plans, as detailed in

S. 15, contain in their standards and requirements designations not just for "trauma" centers but for comprehensive pediatric tertiary care centers; that they address the needs not just of pediatric "trauma" patients but of "critically ill and injured" pediatric patients. The Academy is convinced that any effective new system must ensure that, where reasonably possible, surgeons specifically trained in providing emergency care to critically ill children are indeed the physicians called upon to provide such care.

With respect to certain standards for trauma care centers and systems, as described in S. 15, the Academy further recommends that the states adopt guidelines for the designation of trauma centers, and for triage, transfer and transportation, policies equivalent to the applicable guidelines developed by the American College of Surgeons, the American College of Emergency Physicians and the American Academy of Pediatrics. (See Appendix.)

To reiterate, and in summary, the Academy continues to support S. 15, which in current form would achieve some substantial progress toward improving the current level of trauma care and emergency medical services available to children in this country. But our support is regrettably restrained. Pediatricians and pediatric specialists (e.g., pediatric surgeons) sincerely believe that unless this

legislation is amended to contain more serious and explicit recognition of children's unique health care needs, it will fall short of its promise. That frank assessment notwithstanding, the Academy genuinely looks forward to working closely with supporters of S. 15 in the committee and elsewhere in the Senate to ensure that a final measure--eminently worthy of child advocates' support--wins congressional passage this year.

The Academy wishes to express its appreciation to the chairman for his unwavering leadership on this issue, and for the opportunity to submit these formal comments on the Emergency Medical Services and Trauma Care Improvement Act of 1989.

APPENDIX

PEDIATRIC EMERGENCIES

PREAMBLE

The purpose of these guidelines for the classification of pediatric emergency services is to (a) allow any given community to identify the level of care available for the critically injured or ill pediatric patient, and (b) provide guidance to hospitals and EMS systems as to the resources necessary to provide optimal care to these children. This is a necessary step in the development of EMS systems that meet the needs of the pediatric patient.

These systems require (1) patient and parent recognition of when to access the system and knowledge of how to access the system; (2) prehospital care providers with the appropriate expertise in the assessment and treatment of infants, children and adolescents; (3) regional networking of hospitals of varying levels of pediatric sophistication with transport systems to ensure that the critically ill and injured child is promptly identified, stabilized and brought to the appropriate pediatric center; (4) primary and secondary centers that have the level of expertise to care for the bulk of pediatric patients; (5) the development of pediatric tertiary care facilities with pediatric subspecialist availability for the complex patients; (6) pediatric rehabilitation and long-term care programs; and (7) audit and quality assurance programs to review the care rendered.

This document only addresses one part of a system, the classification of hospital capabilities. Systems implementation involves a triphasic approach:

1. The identification of the capabilities of an institution by that institution which will provide information on its compliance with the guidelines.

2. Verification of a given hospital's compliance or noncompliance with the guidelines by outside, non-involved individuals, the verification site review.

3. Designation of the hospital, which is a political governmental process by which a legally empowered agency designates the level of care a given hospital can provide, based on the above verification process.

This process should not be viewed as an isolated event, but always kept in the context of creating an appropriate and optimal system of pediatric care. Thus, these guidelines

describe institutions with three different levels of pediatric sophistication. The Level III primary care hospital has minimal pediatric resources but has the ability to stabilize seriously ill and injured children prior to transport. The Level II hospital has significant pediatric resources but lacks comprehensive subspecialty expertise. The Level I hospital has comprehensive pediatric resources available to provide definitive care for any problem, including the most complex.

Each institution has its own role to play in an EMS system. Public education and medically directed prehospital triage should direct critical pediatric patients to Level I or Level II facilities. The Level III hospital provides a vital service in stabilization and transfer in areas where Level I and Level II facilities are not readily accessible. The Level II center can provide definitive care for most patients, serving the needs of its catchment area and preventing the tertiary facility from being "flooded." The Level I center is a regional referral center providing primary as well as tertiary services to its own immediate catchment area and acting as a patient care, research and education resource for its region.

The exact interplay of these institutions will vary from state to state and region to region, as will available resources. In regions with limited pediatric resources, the concentration of specialists in a comprehensive center will be important to avoid the fragmentation and dilution of care to children. The Level I center outlined in these guidelines describes the requirements for such a comprehensive center capable of bringing pediatric medical and surgical expertise to the bedside of acutely ill or traumatized children. This comprehensive approach is important due to the multispecialty teams required to care for these complex patients.

Institutions may choose to develop expertise in certain areas and not others. In some areas, such as large metropolitan communities, there may be adequate pediatric resources so that multiple centers will co-exist. Alternatively, pediatric expertise may be divided so that different institutions elect to concentrate on specific missions, e.g., pediatric traumatic or pediatric medical emergencies. In such settings, these guidelines can be used to define the personnel, facilities, and equipment requirements necessary to meet the institution's mission. For instance, the pediatric trauma guidelines outlined in Appendix J of the American College of Surgeons' document, "Hospital and Prehistorical Resources for Optimal Care of the Injured Patient" (February, 1987), defines a subset of the requirements in these guidelines that are necessary to take care of the injured child. If a regional EMS system only defines this subset capabilities, the critically ill children, representing 50 percent of the patient pool requiring critical care, will be underserved. Great care must be exercised in the designation process to avoid neglecting the needs of major groups of pediatric patients.

Thus, it is important that such guidelines be utilized synergistically to ensure that pediatric trauma is an integral part of an overall system to provide care for traumatized patients while simultaneously an integrated approach to all pediatric patients exists within an overall EMS system. Where a comprehensive effort in meeting the needs of children has not been undertaken, these young patients are deprived of the benefits that an organized EMS system brings to adult patients. Where such an effort is made, the outcome for children can be significantly improved.

Each region will have its own unique characteristics with varying resources for pediatric care. The major factor that must be considered by all regions is the identifiable measure of commitment. This commitment entails not just the determination that patients with severe trauma or life-threatening medical illness be triaged to the appropriate facility, but, perhaps as important, this commitment should entail a constant effective integration of all the specialties dedicated to the improvement of care for children.

CLASSIFICATION - PEDIATRICS

LEVEL I: An institution capable of providing comprehensive, specialized pediatric care to any acutely ill or injured child. Usually a children's hospital or a large general hospital with a pediatric division providing comprehensive subspecialty pediatric medical and surgical services.

LEVEL II: A hospital with a pediatric service capable of caring of the majority of pediatric patients, but with limited pediatric critical care and subspecialty expertise.

LEVEL III: A hospital with a functioning Emergency Department capable of evaluation, stabilization and transfer of seriously ill and injured pediatric patients. Such facilities should have formalized transfer agreements to higher levels of pediatric care. They should provide a vital service in stabilization and transfer in areas where Level I and Level II facilities are not readily accessible.

I HOSPITAL ORGANIZATION

All physician/staff members listed shall be either Board Certified or Board Eligible and actively seeking certification. This standard includes subspecialty Boards/Certificates where applicable. Each member of the institution's medical staff shall be credentialed by the facility for the appropriate specialty, including trauma care where applicable. More than one area of practice in the surgical specialties may be covered by one individual with appropriate training and experience.

1.	Department of Pediatrics	E	E	
	Chairman	E	E	
	Emergency Medicine	E	E	
	Critical Care	E	D	
	Cardiology	E	D	
	Neurology	E	D	
	Pulmonology	E	D	
	Allergy/Immunology	E	D	
	Gatroenterology	E	D	
	Hematology/Oncology	E	D	
	Nephrology	E	D	
	Endocrinology	E	D	
	General Pediatrics	E	E	
	Infectious Diseases	E	D	
2.	Department of Surgery			
	General Surgery	E	E	
	Pediatric Surgery	E	D	
	Cardiac Surgery	D		
	Pediatric Cardiac Surgery	E	D	
	Neurologic Surgery		E	
	Pediatric Neurologic Surgery	E	D	
	Urologic Surgery	E	D	
	Pediatric Urologic Surgery	E	D	
	Gynecologic Surgery	E	D	D
	Orthopedic Surgery	E	D	
	Pediatric Orthopedic Surgery	E	D	
	Plastic and Maxillofacial Surgery	E	D	
	Oral Surgery	E	D	
	Ophthalmologic Surgery		E	
	Pediatric Ophthalmologic Surgery	E	D	
	Pedodontics	E	D	
	Otorhinolaryngology	E	E	

		LEVELS I	II	III
	Thoracic Surgery	D	D	
3.	Department of Anesthesia	E	E	D
	Pediatric Anesthesia	E	D	
4.	Emergency Department	E	E	E
5.	Pediatric Trauma Service	E	D	
6.	Radiology Department	E	E	E
	Pediatric Radiology	E	D	
7.	Specialist Availability			
	IN-HOUSE 24 HOURS PER DAY			
	Emergency Medicine	E	E	E
	Pediatric Intensive Care	E	D	
	Pediatric Surgery	E	D	
	Anesthesia	E	E	
	Neurologic Surgery	E	D	
	ON CALL & PROMPTLY AVAILABLE			
	Cardiology		D	
	Pediatric Cardiology	E	D	
	Neurology		D	
	Pediatric Neurology	E	D	
	Pulmonology		D	
	Pediatric Pulmonology	E	D	
	Allergy/Immunology		D	
	Pediatric Allergy/Immunology	E	D	
	Gastroenterology		D	
	Pediatric Gastroenterology	E	D	
	Hematology/Oncology		D	
	Pediatric Hematology/Oncology	E	D	
	Nephrology		D	
	Pediatric Nephrology	E	D	
	Endocrinology		D	
	Pediatric Endocrinology	E	D	
	General Pediatrics	E	E	D
	Radiology		E	E
	Pediatric Radiology	E	D	
	Infectious Disease		D	
	Pediatric Infectious Disease	E	D	
	Family Medicine (or Pediatrics) Anesthesia			E
	Neurosurgery		E	D
	Pathology		E	
	Pediatric Pathology		E	D
	Physical Medicine and Rehabilitation	E	D	

	LEVELS I	II	III
Pyschiatry		E	D
Pediatric Psychiatry	E	D	
Orthopedic Surgery		E	D
Pediatric Orthopedic Surgery	E	D	
Microsurgery	E	D	
Cardiac Surgery		D	
Pediatric Cardiac Surgery	E	D	
Gynecologic Surgery	E	D	
Otorhinolaryngolic Surgery	E	E	D
Plastic & Maxillofacial Surgery	E	D	
Oral Surgery	E	D	
Pedodontics	E	D	
Ophthalmologic Surgery		E	D
Pediatric Ophthalmologic Surgery	E	D	
Hand Surgery	E	D	
Urologic Surgery		E	D
Pediatric Urologic Surgery	E	D	
General Surgery		E	E
Vascular Surgery		D	
Thoracic Surgery		D	
8. Department of Nursing			
Director, of Nursing	E	E	E
Manager, Pediatric Nursing	E	E	
Pediatric Head Nurse, General Pediatrics	E	E	
Pediatric Clinical Specialist: ED, OR, ICU, PACU	E	D	D
Pediatric Nurse Education	E	E	E
Trauma Nurse Coordinator	E	E	
II FACILITIES/RESOURCES/CAPABILITIES			
1. Emergency Department			
A) Personnel			
1) Designated Physician Director	E	E	E
2) Physician with commitment to the care of the critically ill or injured child present in E.D. 24 hours per day	E	E	E
3) Pediatric consultant readily available		E	E
4) Pediatric trauma team	E	D	
IMMEDIATELY AVAILABLE:			

		LEVELS I	II	III
a)	Trauma team leader as designated by the chief of trauma service	E		
b)	2 additional MD members of trauma team	E		
c)	Neurologic Surgery	E		
d)	Emergency Nurse	E		
e)	Respiratory Therapist	E		
f)	Laboratory Technician	E		
g)	Radiology Technician	E		
h)	Anesthesia	E		
i)	Orthopedics	E		
	PROMPTLY AVAILABLE:			
a)	Licensed/certified clinical social worker, as a member of inter-disciplinary team, shall provide families with psychotherapeutic services, which may include, but are not limited to, crisis intervention, grief counseling, advocacy, etc.	E		
5)	Nursing Staff			
a)	Designated Pediatric Nursing Director	E	D	
b)	Designated E.D. Nursing Director		E	D
c)	Pediatric Clinical Nurse Specialists	E	D	
d)	General Staff experienced in pediatric emergency nursing care	E	E	E
6)	Dedicated Pediatric Emergency Area	E	D	
7)	Designated resuscitation area equipped for the resuscitation and stabilization of neonatal, pediatric/adolescent patients and of adequate size to accommodate a full resuscitation team, including trauma	E	E	D

		LEVELS I	II	III
B)	Equipment			
1)	Communication equipment with EMS system	E	E	E
2)	Airway control and ventilation equipment:			
	a) Laryngoscopes - sizes 0, 1, 2, 3, straight and curved	E	E	E
	b) Bag-valve mask resuscitators, infant, child and adult	E	E	E
	c) Endotracheal tubes cuffed & uncuffed 2.5-9.0 (2.5-6.0 uncuffed)	E	E	E
	d) Suction and appropriate size catheters, 5-12 fr, yankauer	E	E	E
	e) Airways	E	E	E
	f) Oxygen	E	E	E
	g) Tracheostomy and thoracostomy trays with tracheostomy tubes size 0-3, chest tubes size 16-28 fr	E	E	E
	h) Thoracotomy tray	E	E	
3)	Cardiopulmonary monitors with pediatric capability;	E	E	E
	Monitors with at least two pressure capability	E	D	
4)	Catheters for intravenous and interarterial lines (3-8 fr, 16-24 gauge, intraosseous needles)	E	E	E
5)	Monitor - defibrillator with pediatric paddles 0-400 watt/sec capability	E	E	E
6)	Trays for venisection suturing, plastics	E	E	E
7)	Pediatric splints, casts, tration including equipment for cervical spine stabilization	E	E	E
8)	NG tubes #10-36 fr, 3 and 5 fr feeding tubes	E	E	E
9)	Foley catheters #8-14			
10)	Dialysis catheters-infant, pediatric and adult	E	E	E
11)	Medications in pediatric concentrations	E	E	E

		LEVELS I	II	III
12)	IV solutions with both microdrip and high volume infusion sets	E	E	E
13)	Pediatric LP and subdural trays	E	E	E
14)	Burr-hole/ICP monitor tray	E		
15)	Blood pressure cuffs: premie, infant, child adult, thigh	E	E	E
16)	Doppler for blood pressure monitoring	E	E	E
17)	Non-invasive blood pressure monitor	E	E	E
18)	Plus oximeter	E	E	E
19)	MAST suits--adult, adolescent, child	E	E	E
20)	Infusion pumps with fractional cc infusion capability	E	E	E
21)	Pediatric scales for weight measurement	E	E	E
22)	Temperature control devices for patient, IV fluids, and blood	E	E	E
23)	Printed pediatric drug dosage reference material readily available	E	E	E
24)	Thermometer with range 28 - 42 C	E	E	E
25)	OB tray	E	E	E
C)	Support Services			
	In-house 24 hours per day			
1)	Laboratory with micro capability and blood gas analysis, blood bank capabilities	E	E	D
2)	X-ray availability	E	E	D
3)	Respiratory Therapy	E	E	D
D)	On Call and Promptly Available			
1)	Clinical social worker, as a member of an inter-disciplinary team, shall provide families with psychotherapeutic services, which may include, but are not limited to, crisis intervention, grief counseling and advocacy, as well as physical and	E	E	E

		LEVELS I	II	III
	sexual abuse protocols.			
	2) Pastoral Care	E	E	E
	3) Child Life Therapist	E	D	
2.	Intensive Care Unit			
	A) Separate Pediatric Unit	E	D	
	B) Designated Pediatric Medical Director	E	D	
	C) Pediatric ICU physician present in hospital 24 hours per day	E	D	
	D) Designated Pediatric Nursing Unit Manager	E	D	
	E) Pediatric Nurse Specialists	E	D	
	F) Equipment			
	1) Invasive monitoring venous, arterial	E	E	
	2) Invasive monitoring capabilities-cardiac output, pulmonary artery, ICP monitoring	E	D	
	3) Cardiopulmonary monitors with at least 3 pressures	E E	E	
	4) Capnography	E	D	
	5) Pulse oximeter	E	E	
	6) Noninvasive blood pressure monitoring	E	E	
	7) Pacemaker capability, including temporary transvenous pacemaker	E		
	8) Pediatric ventilators	E	E	
	9) Airway control equipment as listed in ED	E	E	
	10) Appropriate emergency surgical trays, i.e. cutdown, thoracotomy, ventriculostomy	E	E	
	11) Pulmonary function measuring devices	E	D	
3.	Operating Room			
	A) Readily available and staffed 24 hours per day	E	E	D
	B) Nursing Unit Manager	E	E	E
	C) Scrub and circulating nurse readily available	E	E	D
	D) Post Anthesia Care Unit (may be PICU) staffed 24 hours per day	E	D	D
	E) Equipment			
	1) Cardiopulmonary bypass	E		
	2) Operating microscope	E	D	
	3) Thermal control for	E	E	E

		LEVELS I	II	III
	patient, room and blood			
4)	X-ray capability including C-arm	E	D	
5)	Cardiopulmonary monitoring	E	E	E
	with at least 3 pressures	E	D	
6)	Endoscopes and bronchoscopes	E	E	
7)	Craniotoma	E	E	
8)	Fracture table	E	E	D
9)	Pediatric anesthesia equipment	E	E	D
10)	Noninvasive blood pressure monitoring	E	E	D
11)	Pulse oximeter	E	E	E
12)	Cardiac output equipment	E	D	
13)	Pediatric instruments and equipment	E	E	D
4.	Clinical Laboratory			
	Available 24 hours per day:			
1)	Chemistry	E	E	E
2)	Hematology	E	E	E
3)	Serotology	E	E	D
4)	Blood bank	E	E	E
5)	Blood gases	E	E	E
6)	Microbiology	E	E	D
7)	Toxicology	E	E	D
8)	Drug levels	E	E	D
9)	Micro capability	E	E	D
5.	Hemodialysis Capability/Transfer Agreement	E	E	
6.	Burn Unit Availability/Transfer Agreement	E	E	E
7.	Pediatric Medical/Surgical Units			
A)	Separate pediatric unit	E	E	
B)	Pediatric Unit Nursing Director	E	E	
C)	Pediatric nurses in appropriate staffing	E	E	
D)	Equipment			
1)	Airway equipment as in ED	E	E	
2)	Oxygen, air, and suction	E	E	
3)	EKG monitor/defibrillator	E	E	
4)	Standard pediatric IV solutions, drugs and supplies	E	E	
8.	Radiology			
A)	Immediately Available			

		LEVELS I	II	III
	1) Routines 24 hours per day	E	E	E
	B) Promptly Available			
	1) Angiography 24 hours per day	E	D	
	2) Ultrasoud 24 hours per day	E	D	
	3) CT scan 24 hours per day	E	D	
	4) Nuclear Medicine	E	D	
	5) MRI scan			
9.	Rehabilitation Medicine/Transfer Agreement	E	E	
10.	Acute Spinal Cord Injury Management Capability/Transfer Agreement	E	E	E
11.	Helipad	E	E	E
12.	Transport Protocols and Transfer Agreement for Critically Ill and Injured Pediatric Patients	E	E	E
13.	Participation in Regional Inter-hospital Transfer Program, Including Transfer Agreements	E	E	E
14.	Pharmacy Staffed By Licensed Pharmacist			
	A) In-house 24 hours per day	E	D	
	B) Promptly available		E	D
15.	Organ Procurement Program/Agreement	E	E	E
III	QUALITY ASSURANCE			
1.	Structured program	E	E	E
2.	Review of all pediatric deaths	E	E	E
3.	Review of all incident reports	E	E	E
4.	Multidisciplinary pediatric trauma and resuscitation conferences	E	E	E
5.	Mainatin pediatric trauma registry	E	D	
6.	Participate in pediatric trauma registry	E	E	E
7.	Pediatric Nursing Audit	E	E	E
8.	Review of all E.D. 7 day readmits	E	E	E
9.	E.D. physician audit of pediatric patients	E	E	E
10.	Review of pediatric transport and prehospital care	E	E	E
11.	Review of regional systems of pediatric care	E	E	E
12.	Participate in medical direction of EMS systems	E	E	E
IV	Community Programs			

		LEVELS I	II	III
1.	Consultations with physicians and referral institutions	E	E	E
2.	Public Education	E	E	E
3.	Continuing Education Program for professional staff	E	E	E
4.	Prehospital Care Providers Education	E	D	D
5.	Outreach program to referral institutions	E	D	
V	Research			
1.	Pediatric Trauma	E	D	
2.	Pediatric Critical Care	E	D	
3.	Pediatric Emergency Medicine Institutions	E	D	

(E) Essential (D) Desirable

NOTES

PEDIATRIC EMERGENCIES

1. Requirements may be met by a Pediatric Emergency Department in a Department of Pediatrics or by a recognized administrative component of Pediatric Emergency Medicine within a Department of Emergency Medicine.

2. This requirement may be fulfilled by a physician who is (1) board certified/board eligible in pediatrics or board certified/board prepared in emergency medicine and (2) who demonstrates his/her commitment by engaging in the exclusive practice of pediatric emergency medicine a minimum of 100 hours per month, or has an additional one year training in pediatric emergency medicine.

3. When a resident or other physician is utilized to fulfill this requirement the chief of the respective specialty service shall designate residents at the appropriate level of training who can provide the indicated treatment. Staff specialist shall be physically present within 30 minutes.

4. Requirements may be fulfilled by an anesthesiology resident and/or CRNA designated by the Chief of Anesthesia as capable of assessing emergent situations in pediatric patients and providing any indicated treatment. Where no facility in a region can provide in-house anesthesia coverage, this requirement may be met by an attending level pediatric critical care or pediatric emergency medicine physician designated as above by the Chief of Anesthesia. A staff specialist in pediatric anesthesia must be promptly available within 30 minutes. (In Level II facilities a staff specialist in anesthesia must be available within 30 minutes.)

5. A physician capable of pediatric airway management must be present in the hospital 24 hours/day. This could be a pediatrician, emergency medicine physician, anesthesiologist or surgeon.

6. In institutions that do not provide an organized trauma service, these criteria do not apply.

7. Staff level surgical team leader must be in-house within 30 minutes if a surgical resident is fulfilling this requirement. The staff surgeon will assume the team leader role on arrival. In the interim, leadership of the trauma team must be clearly defined by pre-established protocols. Such protocols should ensure that an attending level physician is physically present during the initial resuscitation.

8. If the Emergency Department is not always staffed to provide an adequate number of trauma nurses, nurses in the hospital with special training in pediatric trauma must be on call as members of the trauma team. At least two nurses per shift must have completed a pediatric trauma nurse course. These nurses may come from a Pediatric Unit.

9. There must be one nurse on each shift who has extra competence in pediatrics as demonstrated by completing a comprehensive pediatric emergency nursing course.

PREPARED STATEMENT OF THE U.S. PUBLIC HEALTH SERVICE DEPARTMENT OF HEALTH AND HUMAN SERVICES

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

The Public Health Service is pleased to offer views on the emergency medical services (EMS) and trauma care legislation currently pending before the Committee. The Administration strongly supports further development, expansion, and improvement of life-saving trauma care and emergency medical services throughout the Nation; however, statutory authority currently exists under the Preventive Health and Health Services (PHHS) Block Grant to assist States in this effort.

Background

Prior to 1981, the Department administered a categorical program of grants aimed at establishing a nationwide network of EMS systems. This effort was largely successful, and such systems were, in fact, established all across the country. In 1989, the Administration proposed, and the Congress agreed, to merge this categorical grant authority into a block grant to the States. Public Law 97-35, the Omnibus Reconciliation Act of 1981, established the PHHS Block Grant, with EMS being one of the activities States could support with these funds.

As it currently operates, the PHHS Block Grant is used by States to support the training and certification of emergency medical technicians, feasibility studies to determine geographical areas to be served, the personnel and equipment requirements of the area, and the expansion and improvement of existing emergency medical services. In FY 1986 and FY 1987, States used the PHHS Block Grant to support the certification and training of over 200,000 emergency medical technicians, to provide resources for 137 community feasibility studies, and to expand and improve 1,538 EMS systems nationwide. The State-based network of emergency medical systems targets urban and rural areas, areas that are heavily traveled, communities whose residents have high-risk occupations, and areas frequented by tourists.

Pending Legislation

The "Emergency Medical Services and Trauma Care Improvement Act of 1989", S. 15, introduced on January 25 of this year, would authorize appropriations of $75 million for each of FYs 1990 through 1992. The bill would require that ninety-five percent of the annual appropriation be used to support a new Trauma Care Block Grant. State allotments would be determined by

a formula based eighty percent on population and twenty percent on geographical size. Specified uses of the allotments would include thirty-five percent for planning with requirements and restrictions prescribed in detail, thirty-five percent to reimburse trauma centers for uncompensated care, and the remainder for any combination of the above uses.

The remaining five percent of the appropriation would be used to establish a National Clearinghouse on Emergency Medical Services for information-sharing and technical assistance, and to support various research, training, evaluation and demonstration projects, technical assistance to State and local agencies, and the establishment of guidelines for the development of uniform data reporting systems. The Secretary would also be required to study and report to Congress on the long-term economic effects of trauma.

Title V of the "Comprehensive and Uniform Remedy for the Health Care System Act of 1989", S. 1274, introduced on June 23, would: (a) establish a National Clearinghouse on Emergency Medical Services and Trauma Care; (b) authorize for 1990 through 1992 a new $ 8 million per year

program of rural EMS research and demonstration grants; and (c)

authorize appropriations of $100 million per year for FYs 1990 through 1992, to establish a new program of EMS block grants to States.

Administration Position

While we understand the concerns of Congress about trauma care and emergency medical services, we oppose enactment of S. 15. The bill would create an unnecessary State grant program with strict planning requirements subject to Federal scrutiny, with new authorizations of appropriations not contained in the President's FY 1990 budget. We believe that broad block grant programs, in this case the PHHS Block Grant, which States have used to support their trauma and emergency medical services programs, best allow the States the flexibility to tailor programs that meet their own needs. Prescriptive new categorical authorities would be inappropriate.

Providing additional funds specifically targeted on EMS is also inconsistent with the philosophy underlying the PHHS Block Grant.

We also oppose Title V of S. 1274. As is the case with S. 15,

S. 1274 would authorize new, unnecessary, and excessive Federal spending for EMS research and demonstration projects and for grants to States to support uncompensated care.

We urge the Committee to maintain current law regarding support of EMS/trauma care systems -- through the existing Preventive Health and Health Services Block Grant.

Thank you for having provided this opportunity to present our views.

[Whereupon, at 4:45 p.m., the committee was adjourned.]

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